VOL. 161 — NO. 6

AUGUST 5, 1961

Telephony

THE JOURNAL OF THE TELEPHONE INDUSTRY

Posing against the building which served as their classroom are these participants in the fifth annual Telephone Engineering Conference which was held at Michigan State University, East Lansing. Seminar ended July 25. Story, photo identification, page 50.

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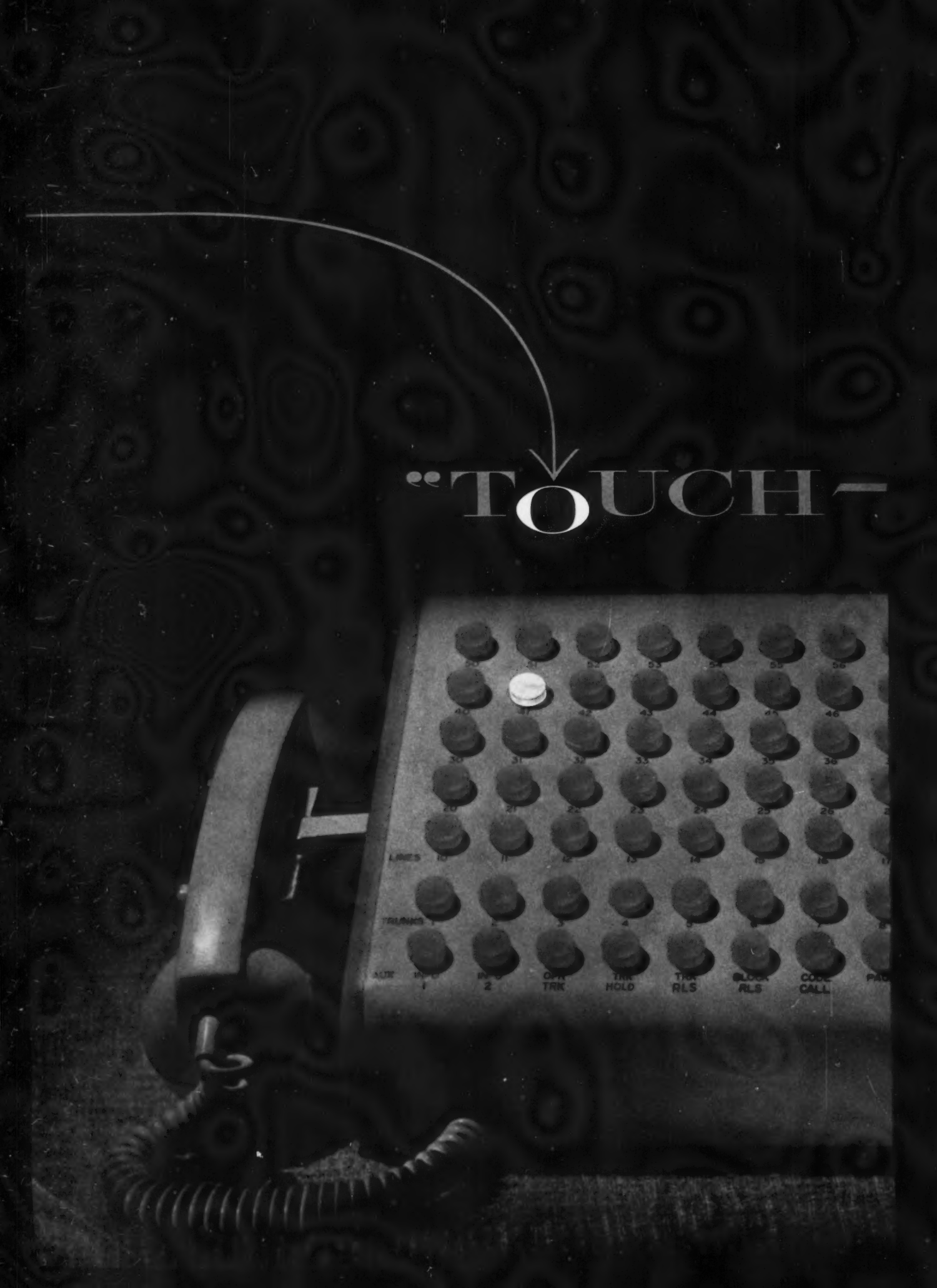
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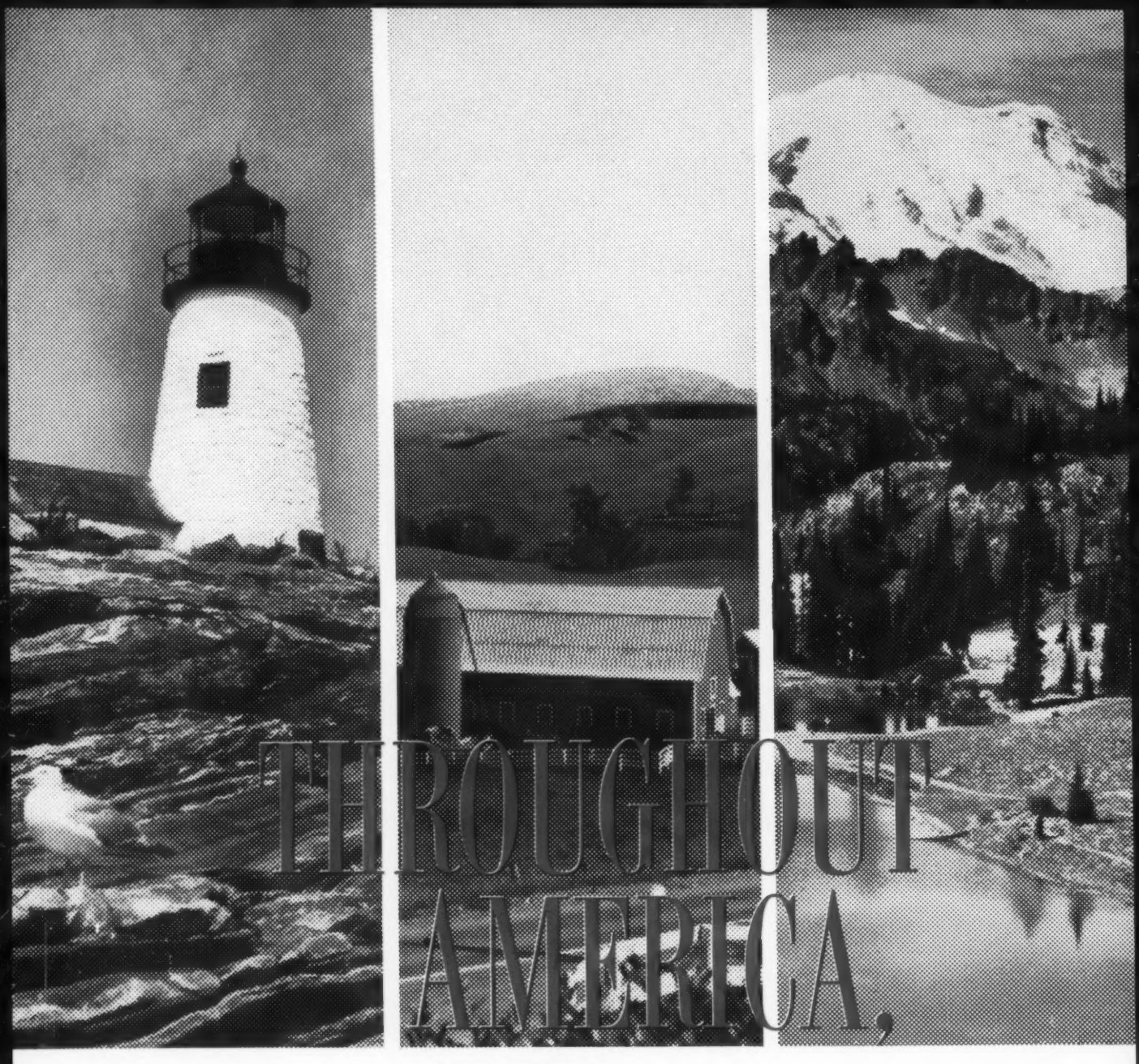

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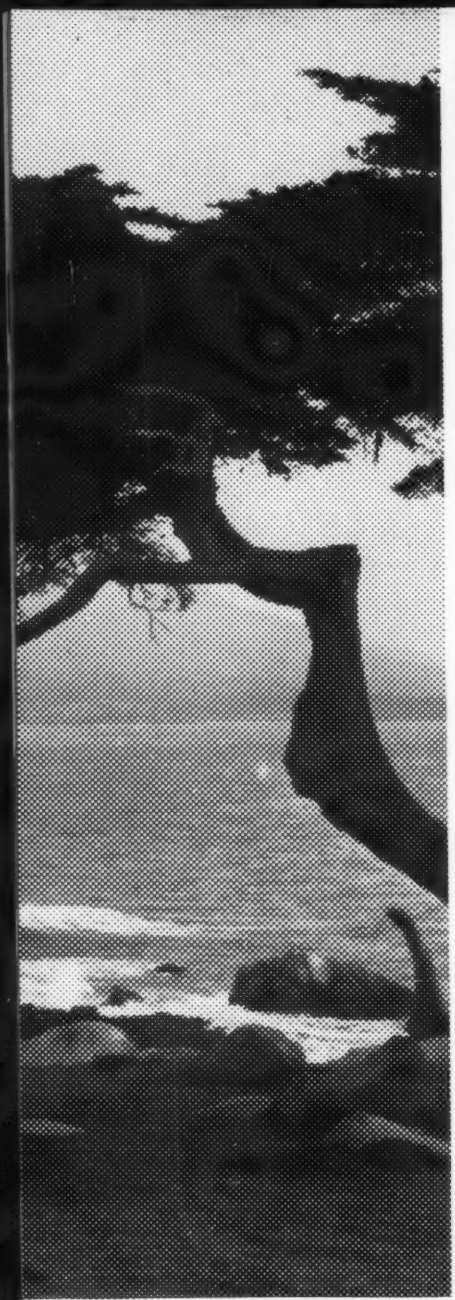

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FLASHES AND PLUGS

FRISKIE'S FREEDOM JOURNEY. Friskie, a 4-by-5-inch box turtle, is the much-loved pet of seven-year-old David Everard of South Plainfield, N. J. He was "officially" adopted in April, 1960, by the Everard family, when they found him in their yard, and Mrs. Everard wrote Friskie's name and telephone number, in bright red nail polish, on his shell.

A month later, Friskie wandered away from his wire fence stockade, and left David and his brothers, Dean, 5, and Christopher, 2, very sad, indeed.

Recently, on Friday, July 7—14 months later—Mrs. Everard answered the telephone, to learn that someone in Short Hills, N. J. (15.7 miles away) was holding Friskie for return to the Everards.

The reunion of David and his brothers with Friskie, their well-traveled turtle, was joyous, because someone, at last, had stooped down and read the telephone number on Friskie's back.

If Friskie was frustrated on his return from his mile-a-month journey across the mountains of the Watchung reservation and some heavily traveled N. J. highways, no one could tell, and Friskie wasn't talking.

•

JUST A LIVER LURE. In Joliet, Ill., we are told there is what amounts to a one-cat telephone-answering service.

The cat, a two-year-old Angora named Frosty, belongs to a young lady whose father is hard of hearing, but who always knows when the telephone rings, because, when it does, Frosty leaps up and dashes across the room.

Does Frosty do this because he wishes to be helpful? The answer is "No," and it's no mystery to animal trainers, either; for Frosty has been specially trained.

"I would ring a bell," Frosty's owner explained, "and when he came, I would give him a piece of liver." Frosty was quick to learn.

So it is greed, and not thoughtfulness, which sends Frosty racing when the telephone rings.—*Short Hauls, AT&T.*

•

FISH BIT, MEN HIT. The South Side Division Conservation Federation of Missouri reports in its publication that telephone calls to fish are more expensive than calls to humans.

Two Mokane, Mo., commercial fishermen were apprehended by conservation agents behind trail dikes on the Missouri River. The fishermen were operating a telephone generator and taking a quantity of catfish.

The two were fined $200 after they pleaded guilty to taking fish by an illegal method.

CHANGE OF ADDRESS

Please notify your local postmaster and the Circulation Department of TELEPHONY of change of address. Change cannot be made without the old as well as the new address. Allow three weeks for change of address to become effective.

Telephony

THE JOURNAL OF THE TELEPHONE INDUSTRY

1901 — 60 years — 1961

Aug. 5, 1961

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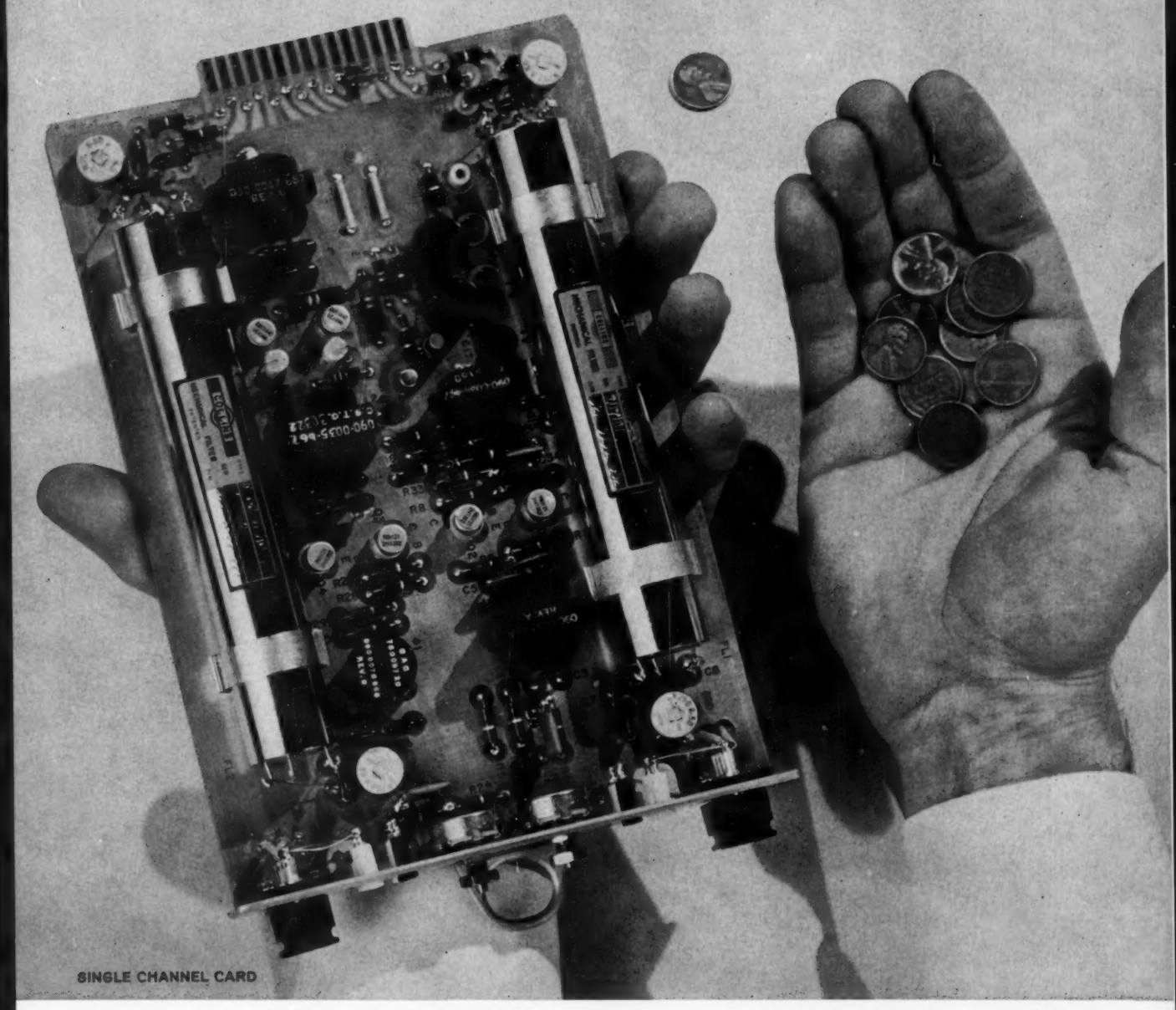

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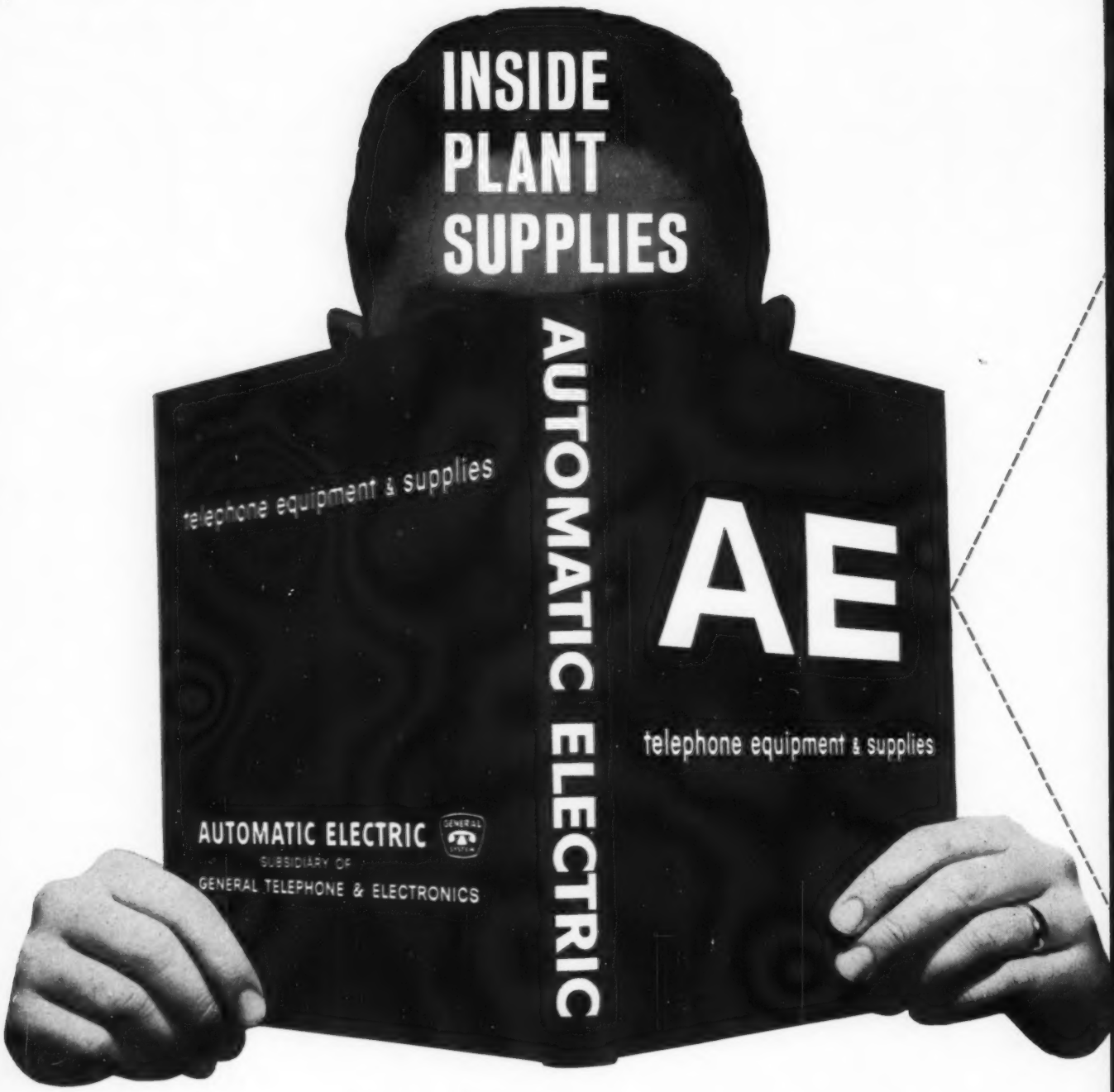

AE's 1961 Supply Catalog is the place to find everything you need for inside plant installations...everything from interior cable to plugs and jacks. In fact, the AE catalog is the best reference you have for all telephone equipment or supplies. Consult yours today! And remember, at AE you get *fast delivery* from a *large stock* of *famous brands.*

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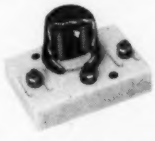

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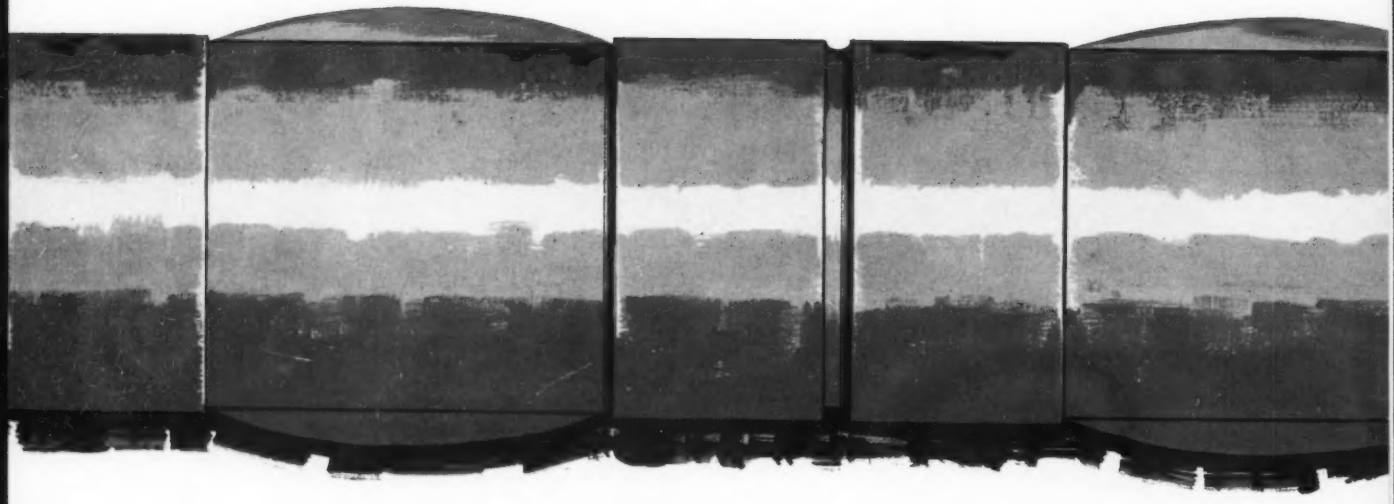

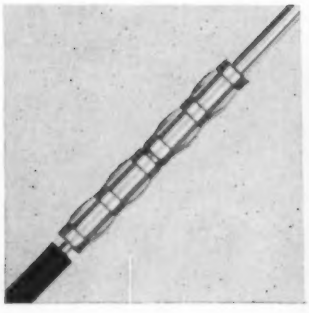

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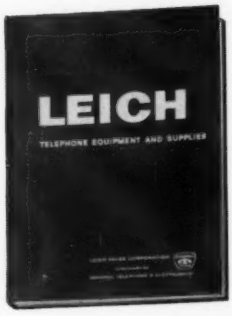

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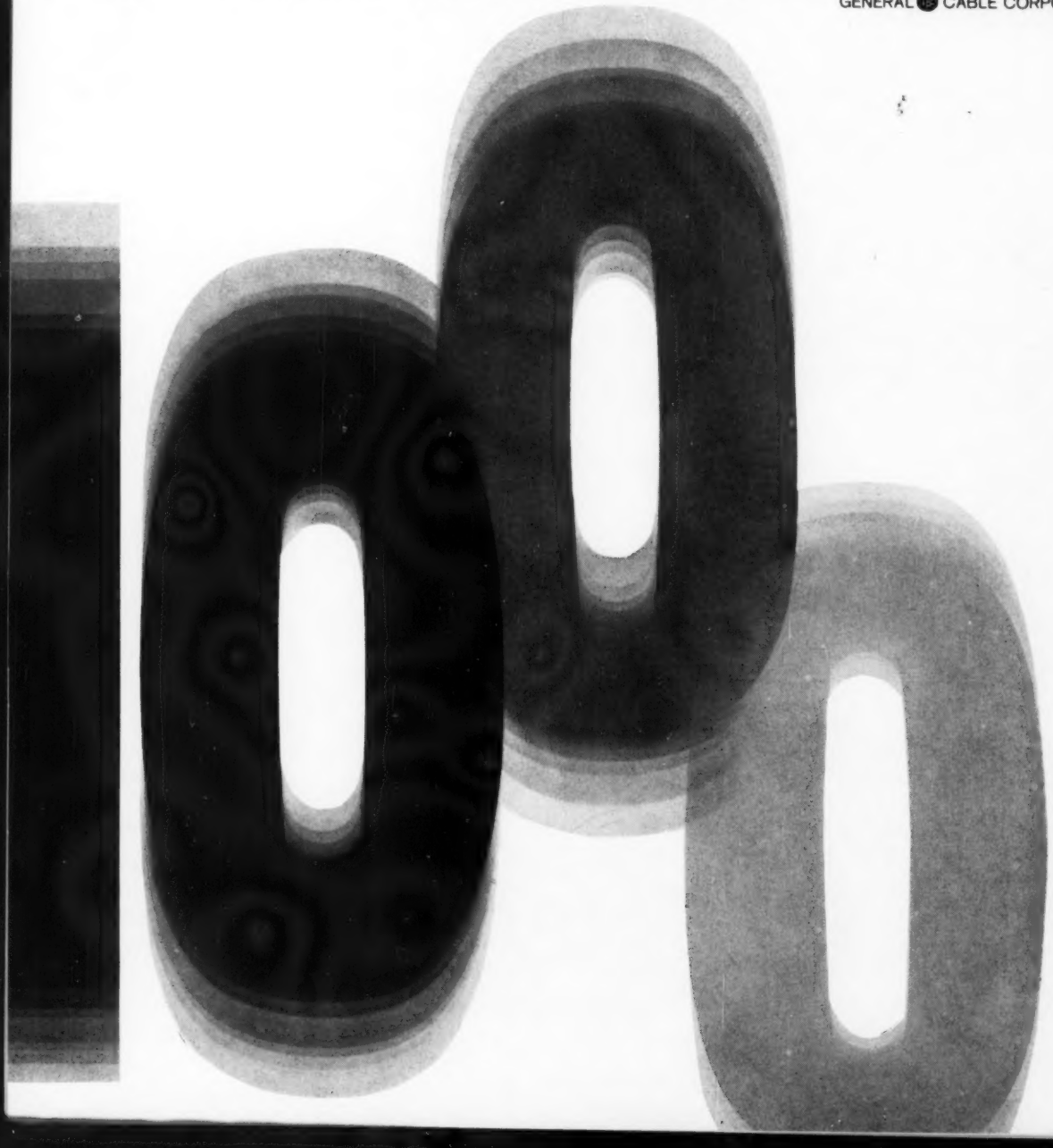

TV shops GET THE MESSAGE from automatic telephone answering service

Mr. William Singleton (right) shown with J. B. Doty of the Skagit Valley Telephone Company

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Back in June of 1955, Mr. Singleton decided that in order to get more than his share of the sales and service business in Mt. Vernon, Washington, he must offer better service than his competitors. Due to the fact that, in this business, incoming phone calls received after-hours is the rule, rather than the exception, an ELECTRONIC SECRETARY phone answering set was the answer.

In the past six years the Singleton TV Shop has added many new customers and kept the old ones happy while the overhead remains at a minimum.

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Change in Our Washington Guard

IT IS WITH mixed emotions that we announce a change in our coverage of Washington and national activities as they affect the telephone industry.

After 25 years as our Washington correspondent and editor, Francis X. Welch has found it necessary to relinquish his association with TELEPHONY because of assignment of additional responsibilities for his publications, *Public Utilities Fortnightly* and *Public Utilities Reports*.

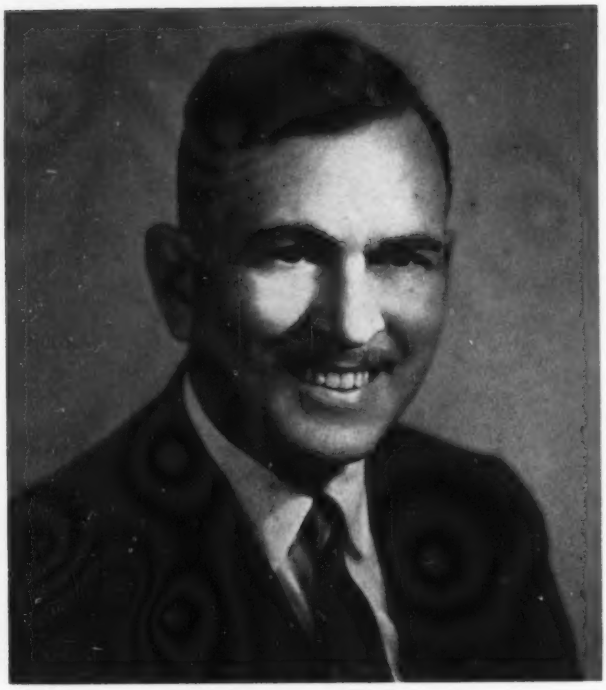
Beginning with the next issue, our new Washington editor, Lawrence (Larry) J. Hogan, will take over our weekly Washington report, "In the Nation's Capital." Mr. Hogan has been collaborating with Mr. Welch in covering Washington during the past several weeks and he authored two articles on public relations which appeared in TELEPHONY in July.

Mr. Welch and Mr. Hogan are devoting this week's "In the Nation's Capital" (pages 18 and 19) to their personal comments as to their past and future associations with TELEPHONY.

We want to express our deep regret that Francis Welch must give up his affiliation with us. Over the past quarter of a century, he has been faithful to TELEPHONY and to the industry, and during that time there has developed a close personal friendship between Francis and our staff, which, we know, shall continue through the years to come. We take this opportunity to express to Francis our sincere appreciation for his devoted and steadfast service to TELEPHONY.

At the same time, we welcome Larry Hogan as our new Washington editor, a post for which he is well qualified. We feel we are fortunate in securing the services of a man who has a broad knowledge and experience in law, business and Washington affairs, and above all, a profound belief in the private enterprise system.

With the increasing concentration of power and authority in the federal government (to which, of course, we are and have been strongly opposed), competent Washington coverage is of vital importance to the telephone industry. We take pride in having been able to give that kind of coverage with Francis Welch the past 25 years, and in continuing it in the future with Larry Hogan.



FRANCIS X. WELCH

IN THE NATION'S

By **FRANCIS X. WELCH**

IT IS WITH much reluctance and personal nostalgia that I find myself writing this, the last of my regular contributions to TELEPHONY's Washington department, "In the Nation's Capital." As my dear friend of many years, Pete Reno, TELEPHONY's editor, has explained elsewhere in this issue, only the force of circumstances beyond the control of either of us compelled the decision to change, at long last, an editorial association of so many happy memories.

It was in January, 1936, that the first by-line "Francis X. Welch" appeared at the head of this department. Your correspondent, then a legal editor of Public Utilities Reports, Inc., and an associate editor of *Public Utilities Fortnightly,* had been approached by the late H. D. Fargo, to do a series of articles on the Washington developments as they affected the telephone industry. It was a period of considerable stress and presented quite a challenge to a newcomer. The Federal Communications Commission, then only two years old, was flexing its muscles. Commissioner Paul A. Walker, later chairman, was conducting a 1½ million dollar special investigation of the Bell System which was to result two years later in the controversial "Walker Report."

The United States Independent Telephone Association was still based in Chicago in 1936, with only a Washington counsel to look after its business with Congress and the federal departments. The first New Deal was still in its first flush of business and social reforms under the late President Franklin Roosevelt. The great depression was still very much in evidence and some telephone companies, both Bell and Independent, were still reporting patronage losses.

The telephone business was not entirely new to me as I took over this assignment for TELEPHONY; but it quickly brought me into closer contact with many fine telephone men and women who were to become close friends through the succeeding years. From the very beginning, the editor of TELEPHONY, the late Stanley Edwards, gave the new Washington reporter plenty of rope to hang himself. A wise and kindly man, Mr. Edwards encouraged me to "Call them as you see them." Since that time through more than twenty-five years I can truthfully say that neither Mr. Edwards nor his successor, Pete Reno, has ever edited a single word of this writer's copy for policy reasons. Not that it didn't need it; but that was the way they wanted it. Once in a while a figure had to be verified or Welch's notoriously outrageous handwriting had to be translated; but on the whole the Chicago office of TELEPHONY and all of its staff have been more than kind and tolerant. No writer ever had more latitude and editorial support.

Your correspondent had to learn early to play this Washington bit by ear. He decided to interpret freely and try to develop the "story behind the story" rather than report solely on spot news developments. The obvious reason for this was that TELEPHONY is a weekly magazine, with several days lead time on processing copy. It would be futile to attempt to compete with the daily newspapers, so this writer never actually tried. Whether this format continues to be valid or useful in the future, my successor must decide for himself. It will be a sound choice, whatever it is.

It would be a trite understatement to say that many important things have happened, both to the world and to the telephone industry, during this quarter century of Washington reporting. The periodic upheavals at the FCC, World War II and all of its problems of government controls on industry, manpower, and prices, and more of the same during the Korean episode. All these things came and went. And now it is Welch's time to exit from his old weekly position on "page 17." The atom bomb, excise taxes, the rash of postwar rate cases, and now space satellites loom on the horizon of the communications fields. These problems are still very much with us and I leave them

(Continued on page 20)

CAPITAL

By LAWRENCE J. HOGAN

LAWRENCE J. HOGAN

ONE OF MY five-year-old son's favorite games is clomping around the house in his father's shoes. I have the same sense of inadequacy in attempting to fill the shoes of Francis X. Welch by assuming the Washington Editorship of TELEPHONY.

Long before I had the pleasure of meeting Mr. Welch, I had heard numerous respectful allusions to him, his career and his work. He is highly respected in journalism, legal and utility circles and this respect has grown out of many years of thoughtful interpretation of Washington's complexities. His wisdom, seasoned with wit, enables him to cut through tomes of verbosity, probe incisively to the heart of the matter, then lucidly report the situation for his readers.

During the months I have been assisting him in the preparation of "In the Nation's Capital," I have learned to admire his depth of understanding, his sparkling humor and the crispness of his writing.

He's a hard man to follow.

The only thing which consoles me in my brash decision to assume the role he has filled so well, is the similarity of our backgrounds. We attended the same high school, the same college and the same law school, and we are both writer-lawyer-teachers, rather rare hybrids in this age of specialization.

It is typical of this man that he offered to be of all possible assistance to me after I begin paddling alone through the Washington whirlpools. You may be sure of one thing, I'll be leaning heavily on him in the months ahead.

It is a great privilege to be associated with the telephone industry, and I hope that I will be able to render some service to the administrators of this important segment of our national life by functioning as an extra pair of eyes and ears in Washington.

As a public relations practitioner, I have long respected the telephone industry for its progressive approach to my chosen field. I recognize in this assignment an opportunity to be of service to an industry which I admire.

I have been poring over volumes of material furnished to me by Mr. Welch and Pete Reno, editor of TELEPHONY, trying to acquire a broader knowledge of the telephone industry, its problems, interests and range of activities. It's interesting and profitable reading.

To set the regular readers of Mr. Welch's column somewhat at ease, let me say that I plan to follow his guidelines meticulously and will attempt to emulate the fine work which he has done for you over the years.

As I have made the rounds of my new beat, I have discovered that TELEPHONY is held in very high esteem by key people in Washington. This pre-sold atmosphere of receptivity will be of considerable help in gathering the information for "In the Nation's Capital." It has made me even more grateful for my new affiliation with this important journal.

As I assume this sobering responsibility, I would like to enlist the assistance of TELEPHONY readers. I will be sincerely grateful for your suggestions, observations and criticisms of my work so that I can serve you more competently.

It is an honor and a privilege to be associated with TELEPHONY and the telephone industry. I am looking forward with pleasure to the opportunities and challenges which lie ahead, and, I assure you, I will strive to merit the confidence which has been placed in me.

to my successor. In one way, I don't really envy his task of handling these many puzzling responsibilities which grow more complicated every day.

Yet, it has been a good 25 years in many ways. The telephone industry has prospered and expanded to an extent undreamed of back in 1936. The USITA is now secure in its Washington headquarters (in the same office building, in fact, as this writer), watching diligently over the affairs of the Independents. The Bell System has its own growing "business embassy" or Washington office reporting to the New York headquarters of the American Telephone & Telegraph Co. The General Telephone System has its own busy Washington office. Things have certainly changed a great deal in this respect since 1936, when both USITA and AT&T had only one man each (both lawyers) looking out for their Washington interests.

When the time came, over a year ago, that this writer found he could no longer fill all of his growing commitments and do them justice, it was characteristic of Pete Reno and Hi Fargo that they asked my assistance in selecting my own replacement. I was only too happy to do so because I felt (and still feel) a deep sense of personal responsibility to all TELEPHONY readers, who have always been so friendly and trusting towards my reporting through the years. I felt I would be remiss if I did not do my part in trying to get the very best available man to take over.

I am confident that Pete Reno has made a good decision. Pete and I canvassed the Washington scene and checked a number of promising leads. We finally came upon a man whose writing ability, legal training, editorial experience, personal wit, charm, and integrity should make him a "natural" as TELEPHONY's new Washington editor. That man is Lawrence J. Hogan, whose biographical background is elsewhere set forth in this issue. I will not duplicate what is said there, except to say that I just have a feeling that the readers of this department are going to be very happy with Larry Hogan.

I have known Larry Hogan, personally, for several years. His work first came to my attention in connection with his fine writing for two business publications in the building trades. He combines a good professional style with a broad scope of interest for such a young man. A solid citizen, good family man, and firm believer in the private enterprise system, Larry Hogan has developed his own ideas about public relations—a course which he teaches at the University of Maryland. Larry's coverage of Washington will, I know, be thoughtful, clear, accurate, and entertaining. TELEPHONY readers can look for a workmanlike job, as well as reliable reporting from this fine young writer. It is with no misgivings that I turn over my own beloved column heading "In the Nation's Capital" to his competent hands.

I do not expect to disappear entirely from TELEPHONY. An occasional speech or special item signed by me will, I hope, appear now and then. But the time has come to change the guard as far as regular Washington reporting for TELEPHONY is concerned. To my many friends and readers, who have always been so very kind and understanding, I can only express my deep gratitude.

Likewise to the publishers and staff of TELEPHONY, to my co-editors and colleagues, such as Ray Blain, Mayme Workman, Dan Fargo, and all the others whose thoughtfulness and cooperation through the years have made this department more fun than work. One

(Continued on page 54)

Meet Our New Washington Editor

Lawrence J. Hogan, TELEPHONY's new Washington editor, was born Sept. 30, 1928, in Boston, Mass. He is married and has two children. Since February, 1959, he has been operating the Larry Hogan Associates, public relations firm, in Washington, D. C.

Mr. Hogan's background includes experience in newspaper work, investigative activity, research, radio and television, free lance writing, teaching and magazine editing, as well as public relations.

Mr. Hogan received Bachelor of Arts (1949) and Bachelor of Laws (1954) degrees from Georgetown University, and has taken graduate studies in public relations, radio and television and creative writing at American University and San Francisco State College. He is an attorney and has been admitted to practice before the U. S. District Court for the District of Columbia and the U. S. Court of Appeals for the District of Columbia Circuit.

During 1945 and 1946, he produced and directed radio sports programs for a Washington radio station and has done free lance reporting for various radio and television stations and newspapers. While attending college, he served as Assistant Director of Publicity at Georgetown University and contributed to various college publications. In 1948, he was affiliated with a Washington public relations firm. Over the years he has written for various newspapers.

He served with the Federal Bureau of Investigation from 1948 to 1958. During these years, he performed general investigative duties, edited various FBI publications and performed other editorial work. He was assigned to Charlotte, N. C., San Francisco and Richmond, Cal., as well as at FBI headquarters in Washington. During the course of his government career, he was commended by J. Edgar Hoover several times and received a citation from the Attorney General of the U. S. for "an effective contribution toward improvement in the operations of the department."

After leaving the FBI, Mr. Hogan served for 18 months with the Chamber of Commerce of the U. S. The duties of this position included maintaining liaison with trade associations; representing the businessman's viewpoint before Congress, governmental agencies and the public; writing brief monthly articles for *Nation's Business* magazine; editing a construction industry newsletter; handling publicity and press liaison in connection with national conferences; writing and editing booklets, pamphlets, speeches, etc.

At the present time, in addition to the operation of Larry Hogan Associates, Mr. Hogan serves on the faculty of the University of Maryland, teaching "Public Relations" and "Law of the Press," and lectures at the Institutes for Organization Management at Michigan State University and Syracuse University. He also serves as editor of *The Plumbing and Heating Monthly*, a trade journal.

Mr. Hogan is active in the affairs of the Public Relations Society of America, D. C. Bar Association, Society of Former Special Agents of the FBI, Washington Board of Trade, Georgetown University Alumni Association, Gonzaga Alumni Association, the Washington Trade Association Executives, the Society of American Travel Writers and other civic and professional organizations.

Annual Review

New Developments in Telephony

By RAY BLAIN, Technical Editorial Director

THIS IS THE fourth article in a series describing various new items of equipment and their application in telephony. The first article appeared in the July 15 issue; the second in the July 22 issue, and the third in the July 29 issue.

Readers desiring additional information on any of the products described should write the manufacturers or TELEPHONY.

* * * * *

Insulation Resistance Tester. (Fig. 31). A portable hand-crank dc insulation resistance tester, recently placed on the market by the Multi-Amp Electronic Corp., should prove extremely useful in telephone systems.

Known as the Multi-Amp Type M miniature tester, it is suitable for reading insulation resistance of electrical machinery, control, communication equipment, cable, wiring and electrical parts. Testing is accomplished by direct current which is internally converted from alternating current supplied by the manually operated generator.

Fig. 31. Insulation resistance tester.

These testers are available for four rated voltages and five ranges of resistance as follows: 1000V/2000 megohms; 500V/1000 megohms; 500V/100 megohms; 250V/50 megohms; and 100V/20 megohms. Accuracy is within ± 5 per cent of the rated resistance values. Response of 0.5 seconds permits instant reading of insulation resistance.

Each tester weighs 5 pounds and can be carried with its fold-back handle or a hand-carrying type leather case.

•

Transistor Exploring Coil Amplifier. (Fig. 32). The Stewart Bros. Model TE transistor exploring coil amplifier is the latest development in cable testing equipment. This unit is one-fourth the size of previous models, has more signal gain, and uses only four size Z penlight cells. The case is constructed of bakelite. The coil and receiver connections are made to two telephone jacks, one of which turns off the battery when the plug is removed. The output is adjustable by use of the knob located between the two jacks.

Most standard tone type cable testers are designed so that the signal strength adjacent to the sheath of a cable is approximately .003 volts. This signal is difficult to hear especially on windy days, in noisy locations, or when the fault is of low resistance. Increasing the signal strength causes carryover beyond the actual trouble and indirectly "noises" up adjacent lines.

This can all be prevented by amplifying the pick-up coil signal to a point where it is many times as powerful as the actual emanation from the cable itself.

Fig. 32. Transistorized exploring coil amplifier.

To operate this device, it is only necessary to attach the receiver plug to one jack on the amplifier and the exploring coil to the other jack. Any type of receiver will give perfect results if it has an impedance between 40 and 100 ohms at reference level.

The amplifier case is 2 inches x 3 inches x 4 inches and weighs only 10 ounces, equipped with batteries.

•

The Loaded Cable Test Set. (Fig. 33). This test set, by Communications

Equipment & Engineering Co., is designed for making accurate transmission loss measurements of H88 loaded cable pairs to determine if irregularities are present. This test method is based on the fact that the transmission loss variations of a loaded cable pair containing impedance irregularities will be greater than for a normally loaded pair. This loss will be particularly noticeable at frequencies near the cut-off of the loading system.

Irregularities due to load coil spacings, bridged tap, or mixed gauge cable can cause as much as 2 db greater measured deviation than may have been

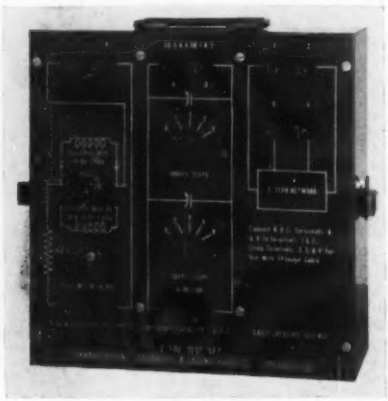


Fig. 33. Loaded cable test set.

computed for the circuit. These errors may be easily detected and located by the use of this test set.

•

Universal Center Mount Turret Derrick. (Fig. 34). A new universal center mount turret derrick unit, with full 360-degree rotation and optional equipment, including hydraulic digger and Fiberglas one-man basket, is now in production by Truck Equipment Co.

The Truco Model 8-TTD-30-U universal derrick mounts behind the cab in only 16 inches of space. All controls are unitized into the base, giving the operator full visibility and fast response of controls from one location.

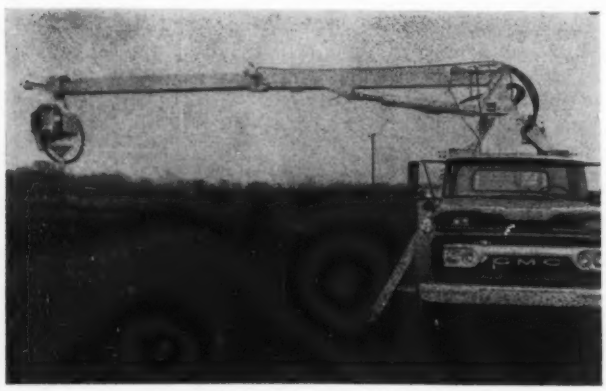


Fig. 34. Center-mount turret derrick.

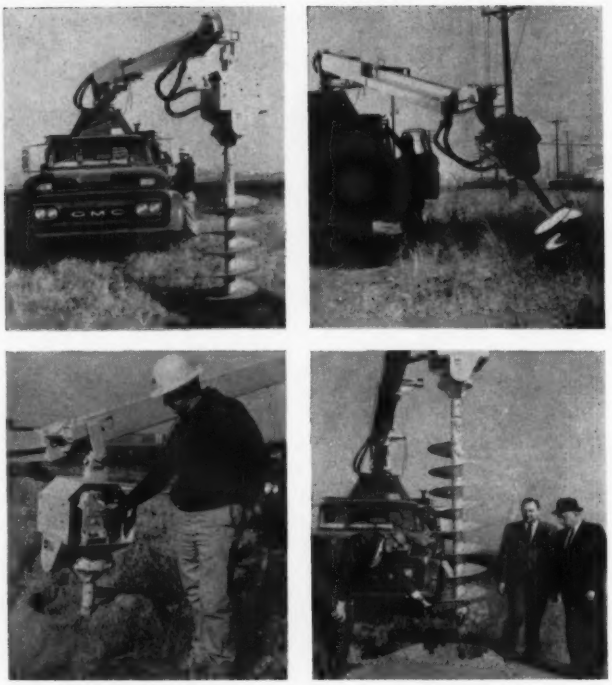


Fig. 35. Hydraulic diggers.

Box type heavy-duty steel booms telescope in two sections to give a 21½ foot extended working radius through a 360-degree arc range. Capacity is rated safely at 8,000 pounds. Stability is achieved through hydraulic outriggers and jacks.

The operator may stow and unstow the auger automatically and use the digger with either boom section. This makes possible maximum radius for digging holes, yet enables the operator to stow the digger with the main boom section while lifting and setting large utility poles with no danger to derrick, pole, digger or personnel. The derrick has 30-foot sheave height.

Optional equipment includes a four-speed digger, 8,000-pound capacity winch, Fiberglas one-man aerial basket or 500-pound capacity two-man basket.

The derrick is also available for mounting at either rear corner of standard line vehicles.

High Speed Hydraulic Digger. (Fig. 35). There is now available a new 4-speed Truco heavy-duty hydraulic digger attachment which will deliver 25 per cent more horse power at the auger than heretofore possible.

By using the high speed or spin-off gear, the operator may dig holes under most normal conditions in one-third to one-half the normal digging time of previous hydraulic diggers. Two intermediate gears permit selection of proper speed for most commonly found digging conditions. A fourth, or super low gear position, is supplied for digging in shale, caliche and hardpan.

Features listed by Truck Equipment Co. include:

(1) Extra heavy-duty components for long rugged use.
(2) Improved design and construction of more powerful and efficient pumps, motors, valves and hydraulic system.
(3) Ability to dig anchor holes at any angle and in any direction when used in combination with the Truco universal turret derrick from either left rear, right rear or behind cab mounting positions.
(4) Auger sizes are rated up to 30 inches in diameter.
(5) Speeds are selected from a single lever control.

•

New Truck Body and Derrick. (Fig. 36). The 5102-S truck body, manufactured by Holan Corp., is a two-man work unit with functionally-designed compartments and so much room that a two-day supply of equipment can be carried without overloading.

The Model 25-C Derrick can handle

Fig. 36. Truck body and derrick.

8,500-pound loads and 50-foot poles. The work unit is mounted on a chassis with 72-inch CA and dual rear tires and has such a short body overhang that derrick load limits are appreciably increased before jacks are required.

•

New Aerial Boom. (Fig. 37). A new aerial device, manufactured by Holan Corp. takes a workman 40 feet into the air. Known as the Series 8000 Squirt Boom, this device can be operated by one man from controls located in the bucket.

The Squirt Boom incorporates several design features. It can be mounted on a 60-inch CA, 14,000# GVW chassis. Holan-designed torsion bars — attached to the base of the body—and

Fig. 37. Aerial boom.

the offset superstructure design, add stability in all operating positions and make outriggers unnecessary.

The Fiberglas bucket, yoke and boom can withstand a 73,000-volt (AC) bucket-to-ground test. The Fiberglas boom, by means of a double-acting hydraulic cylinder, extends 10 feet, 7 inches from the end of the main boom and can be stopped for work at any point in its travel.

Master-slave type hydraulic controls are located on the inboard edge of the bucket and on the superstructure. The unit can also be operated from inside the cab with the solenoid-controlled over-ride.

The boom rotates 360 degrees in either direction and the vertical operating range is 102 degrees. The bucket remains level at all times by means of a leveling cylinder which works as a "slave" to a cylinder located in the superstructure. The leveling cylinder, located in the bucket yoke, is also used to move the bucket into stored position for travel.

•

Corner Derrick. (Fig. 38). This Holan unit—Model 7500 corner-mounted derrick—lifts, digs, winches, and will send a man aloft in a Fiberglas boom bucket—a unit that incorporates a variety of mechanical equipment.

The hydraulic winch (10,000 pounds of lift) is mounted to a reinforced section of the chassis. A special section of steel plate and channeling is welded to form support for the hydraulic jack and right-side outrigger jack, all of which reduce stresses when the powerful derrick, digger and winch line go into action.

The 7500 derrick, which can be mounted on either the right or left side, is designed for "hard-to-get-at" locations such as narrow streets and congested areas. Parked at curbside, the unit does not block traffic and it can reach over 16 feet, 10 inches right-side mounted, 12 feet, 3 inches left-side mounted, for digging and pole setting. It has a horizontal sweep of 195 degrees when mounted on the right side, 125 degrees when mounted on the left side.

One of the features of the derrick is a semi-automatic device which locks the earth borer to the extendible boom for digging and automatically locks the borer to the end of the boom when retracted. (Patents applied for.) The exclusive oil carrier tubes for the earth borer move with the extendible boom, thus, eliminating easily-damaged loose hose.

Because the derrick lowers all the way to the ground, it can dig an 8-foot hole without using an auger extension.

This unit also sets 70-foot poles,

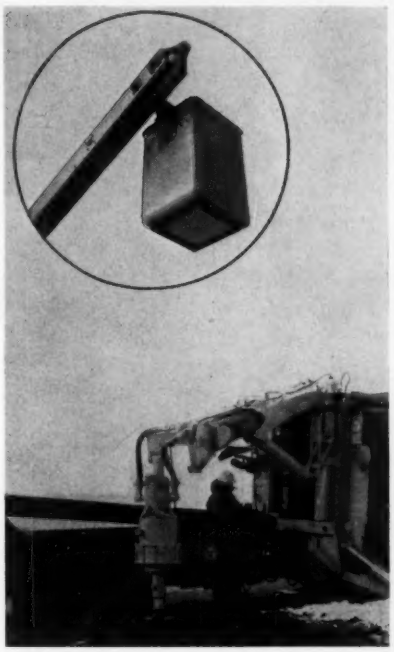


Fig. 38. Corner derrick.

"live booms" 8,500 pounds, body loads over the rear axle. It elevates to 27 feet, six inches with boom extended. Available as optional are two extensions: A 2½-foot which provides maximum height of 30 feet and a 5-foot which provides a sheave height of 32 feet, six inches.

Also offered as optional equipment is a Fiberglas boom extension, with or without bucket.

•

Center-Mounted Derrick. (Fig. 39). The Holan Corp. also reports it is manufacturing the first center-mounted derrick that can be operated from a rotating crow's nest.

This hydraulic derrick can be mounted on the chassis at any point behind the

(Continued on page 51)

Fig. 39. Center-mounted derrick.

Marketing Makes Money

*By R. PARKER SULLIVAN**

PART II. Part I appeared in the July 29 issue.

THERE ARE a number of approaches that can be taken toward developing the marketing attitude within a company. While I'm familiar with some of them, I am not qualified to evaluate them and, as a result, I would like to review the experience we have had in the General Telephone System, with the thought that our experience may contain some information or ideas that may be of assistance to other companies in developing the kind of marketing program you feel your company needs. Here, I'd like to emphasize the importance of designing a program to fit a company's specific needs. I doubt very seriously if one company's marketing program would meet the requirements of another company.

Initially, we established our basic objective for the marketing activity. This objective was to add to our company's profits through an increase in the sale of products and services, and to realize a contribution to profit from efficiencies and improvements in our total performance by having all activities directed toward complete customer satisfaction.

Top Executive Seminars

We conducted a series of seminars for our system's top executives for the purpose of assisting them to understand how marketing had benefited other companies and thus placing them in a position to visualize the profit contribution that the marketing attitude could make to their operations.

Following these seminars, and using a considerable amount of the material that our own people had developed during these sessions, we formulated a long-range plan to bring about effective marketing in all of our operating companies. This plan consisted of four specific phases: Marketing research, sales, product development and education. Each phase was clearly identified as to the contribution that it would make to the attainment of our basic objective.

Marketing research has as its objective the reduction of our marketing costs, improvement in our customers' service, an increase in our sales productivity, and maximizing our profits. The function of marketing research as we interpret it is to collect, summarize, analyze and interpret the existing facts concerning our products, our services, and our activities and to make specific recommendations for proposed action that will result in improved performance, to follow the results realized from the application of our recommendations, and to allow these experiences to serve as a basis for future recommendations.

Acquainting Customers

The sales phase has as its objective a planned, professional coverage of our complete market, both residential and business, for the purpose of acquainting our customers with the products, services and capabilities that we have to meet all of their communication requirements; to establish a relationship between our customers and our companies that will result in their looking

Fig. 1

*Mr. Sullivan is Vice President-Marketing and Sales of General Telephone & Electronics Corp., New York City.

Exchanges	Tot. Tels.	Tot. Bus. Customers	TYPICAL ITEMS SOLD* Bus. Lines or Main Stations	Bus. Exts. or PBX Stations	Pushbutton Key Systems (Type 10A1)	New PBX or PABX Systems
Hopedale, Ill.	461	31	12	76	1	1
Prospect, O.	590	55	2	5	1	None
Mt. Zion, Ill.	1,060	60	4	8	1	None
Dunlap, Ind.	1,210	60	8	13	1	None
Churubusco, Ind.	1,547	95	18	10	1	None
Fairbury, Ill.	1,603	176	27	45	5	1
Greenfield, O.	2,516	226	18	60	8	1
Washington, Ill.	2,584	172	38	38	6	None
New Haven, Ind.	3,182	218	45	57	5	None
Bryan, O.	4,300	400	30	96	6	5
Greencastle, Ind.	4,906	359	92	155	4	9
Valparaiso, Ind.	9,895	694	201	231	14	3
New Philadelphia-Dover, O.	13,203	1,156	114	254	24	5

*These items do not represent all of the products or services sold in these exchanges. Many other items are also being sold such as additional listings, automatic answering devices, message repeating services, etc.

Table 1. Partial list of items sold to business customers in the 13 General exchanges listed in this article.

upon us as the most competent source to fill any of their communication requirements; and to increase our revenues and profits through the direct sale of our products and services.

The product development phase has as its objective the selection of new products by a thorough screening and processing of all product ideas to intelligently determine those that offer the greatest possibility of providing our customers with the services that will meet their wants and needs; the coordination of design work, market testing and manufacturing to assure that the final design of new products meets the requirements or desires expressed by our customers; to coordinate for an orderly introduction of these new products in a planned, carefully-timed and closely-coordinated program that will assure maximum sales at minimum expense.

The objective of the educational phase is to achieve an understanding on the part of all of the employes of our telephone companies of what marketing means, how it has helped other companies, how it can be applied to our business and, finally, how the individual employe can use this marketing attitude to benefit himself, his customers and his company, and to have the marketing principles become an integral part of every new employe's basic indoctrination and training.

You might visualize the parts of our long-range plan as the supporting walls of a tunnel through which we can realize our growth potential, as illustrated in *Fig. 1.*

Start with Sales

We then determined that the most logical sequence for the development of these four phases would be to start with sales, this to be followed by marketing research, then product development and, lastly, the educational program. Each of our operating companies appointed a Marketing and Sales Manager who would report directly to the president of the company and who was charged with the responsibility of carrying out the full marketing program and the attainment of the marketing objective.

Our determination to concentrate initially on the sales phase of the plan was motivated primarily by the simple fact that the greatest profit potential could be realized at an early date from this function, and, also, we were aware that there existed a real need among our customers, particularly business customers, for consultation, analysis, and recommendations concerning their individual communications requirements.

Start Canvass

Following a very careful study and analysis, it was determined that we should create a full-time, professionally trained sales organization to canvass the business customer market, on a regularly planned and directed basis, in all of our companies. To begin such an operation our marketing and sales managers were given extensive training in the art of selling, in the technique of training other people to sell, and in the area of efficient sales management. In addition to this they were provided with effective product training. Each manager was then given the responsibility of building and training his sales organization to fit the particular customer market that his company served.

On Sept. 1, 1959, approximately 214 well-trained, well-qualified and fully-equipped salesmen began to canvass all of our business customers. The approach that these salesmen make to the customer is that we are desirous of surveying his business communications, working with him to analyze his situation with respect to his communications, and to present a proposal for a complete, modern communications system specifically tailored to meet his individual requirements.

Special emphasis is placed on the importance of selling the customer on the benefits he will receive from the complete communication system, as opposed to attempting to sell "pieces of equipment." One of the underlying objectives of this sales effort is to contact every business customer at least once each year. These contacts may not necessarily be personal or premise calls in every instance, but we do believe that the customer is entitled to at least one contact per year.

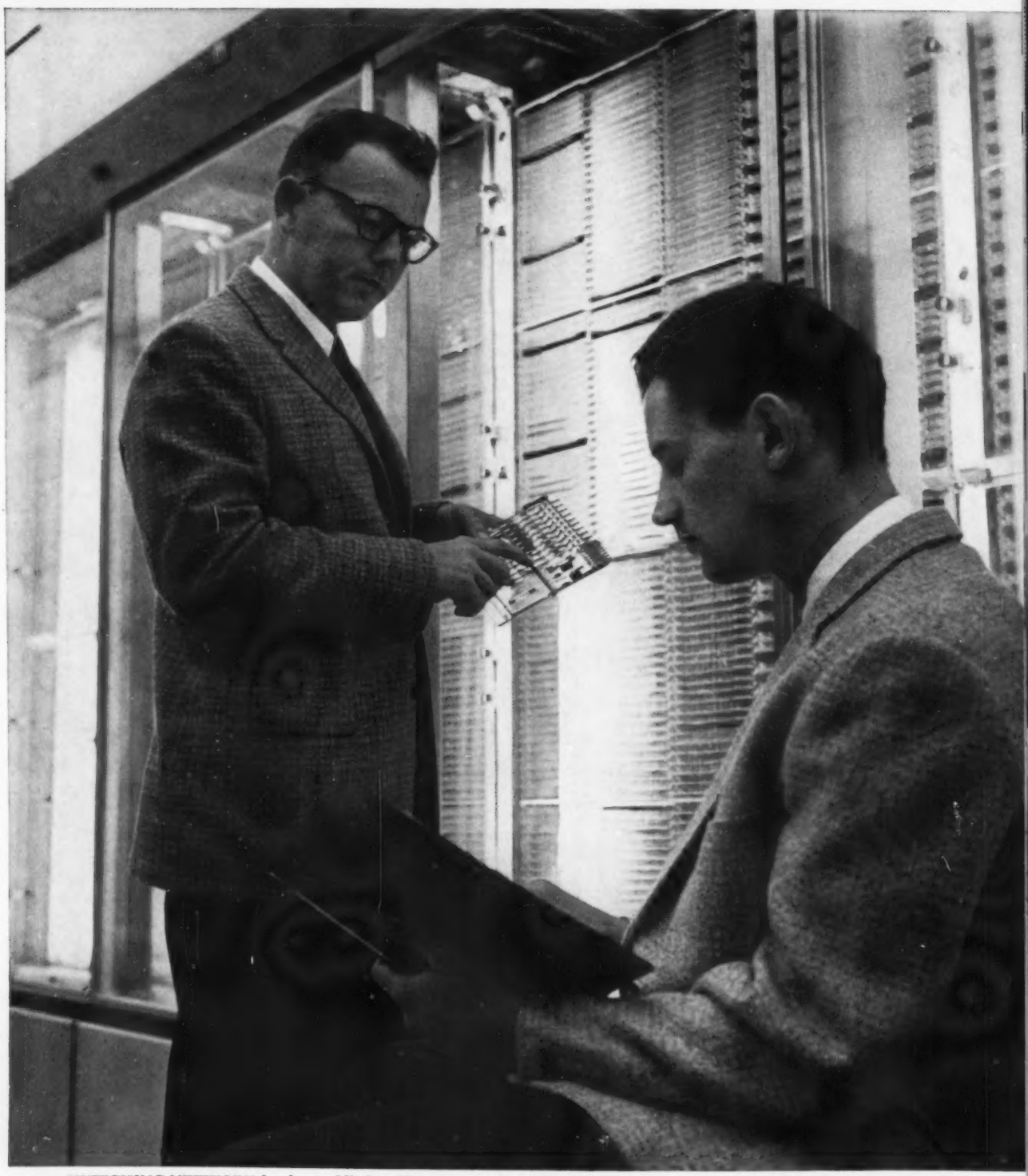
Better Results Than Expected

We are approaching the completion of our second year of this sales operation and we have realized results considerably in excess of those that we had initially anticipated. As a result of these planned contacts with the business customers, who are the "thought leaders" in every exchange, in which we operate, we are creating on their part a much better understanding of our company, a greater appreciation of the value of our services, and a knowledge of the objectives that we have as an organization.

We are at the same time furnishing a very valuable service to these cus-

(Continued on page 46)

WESTERN ELECTRIC AND



SWITCHING NETWORK for the world's first Electronic Central Office in Morris, Illinois, contains thousands of neon gas tubes. Here, an installer of the Western Electric Company holds a modular unit that he is checking with a Bell Laboratories technician.

ELECTRONIC CENTRAL OFFICE

New experimental switching system at Morris, Illinois, demonstrates the essential role of Western Electric in the Bell Telephone System. Four hundred telephone users are the first to enjoy the advantages of the revolutionary electronic office which works thousands of times faster than the present type and offers new economy of operation.

Western Electric has manufactured a major part of the components and assemblies for the world's most exciting telephone central office. Located at Morris, Illinois, this office is the first switching system to perform electronically every function in handling telephone calls. To help make this trial possible, Western Electric has worked closely with Bell Telephone Laboratories, converting the designs of the Laboratories into factory production.

At least four major Western Electric manufacturing locations have provided specialized services or components for the Electronic Central Office. Hawthorne Works in Chicago produced the original circuit and electronic packages and assisted the Laboratories in the design of the equipment. Indianapolis Works built the special phones. Allentown Works made the entirely new-type, tiny gas tubes and the 138,000 semiconductors, which, with other electron devices, perform the switching operations. W.E.'s Columbus Works has since assumed responsibility of engineering and control location for the project known as ECO.

ECO makes possible new services which will greatly increase the value of each customer's telephone. With a built-in memory that retains millions of bits of information, electronic switching works thousands of times faster than standard equipment and offers new economy of operation. At present, ECO permits its trial users to:

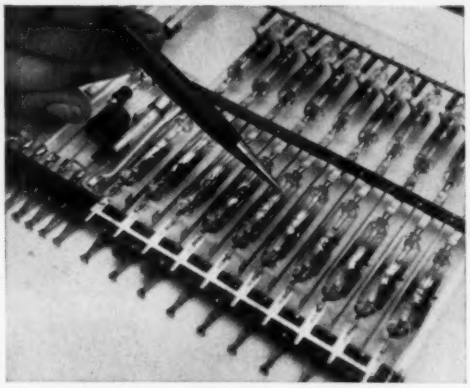
- Use home extension telephones as intercoms
- Reach frequently-called numbers by dialing only two digits instead of seven
- Have incoming calls routed to another phone when the line originally called is busy
- Dial a code which causes automatic transfer of all subsequent incoming calls to be automatically transferred to other local numbers.

Western Electric is proud of its essential contributions to this new system, which was installed in the summer of 1959 by a team of specially trained W.E. installers. This group, working with Bell Laboratories and Illinois Bell personnel, helped to put the equipment through an exhaustive series of tests to attain maximum performance and reliability.

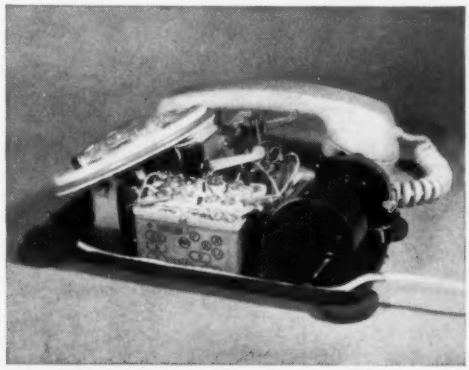
Based on this experience, Western Electric engineers will be able to make significant contributions to future Electronic Central Offices by helping to select the most economical design for manufacture. Most important of all, Western's experience will be of great value in planning for the production of further improvement in switching systems for the Bell System.

Western Electric

MANUFACTURING AND SUPPLY UNIT OF THE BELL SYSTEM



CLOSE-UP of the entirely new gas tubes used in the Electronic Central Office switching network points up their tiny size. More than 23,000 of these hard-working miniatures are used in the Morris trial office.



SPECIAL TELEPHONES — Western Electric built specially adapted telephones for the Morris test with "beeper" networks instead of the usual ringing sound. More than 400 of these new instruments are in use.

PLUG-IN PACKAGE made by Western Electric for Electronic Central Office consists of transistors, diodes, and other electronic components. Thousands of these cost-cutting printed circuit boards were used.

The Plant Man's NOTEBOOK

By RAY BLAIN, Technical Editorial Director

WE WERE RECENTLY privileged to hear a speech titled: "Communications — A Look Ahead," delivered by Brig. Gen. David Sarnoff, chairman of the board of RCA, at the National Press Club in Washington, D. C.

A summary of his speech, which outlined the challenge of communications, is as follows:

The historic progress of communications across the barriers of time and distance parallels man's advance on this planet. The first communications were sight and sound, man-to-man, over distances of only a few feet. Since then, our primary effort has been to extend that distance. We will achieve the earth-bound ultimate when we have direct man-to-man communications, both sight and sound, to any place on earth, regardless of distance. And we will achieve the universal ultimate when we have man—and possibly other species of life — exchanging communications over distances of millions of miles.

In its own way, every communications advance has moved us nearer these ultimates. The Greek, Roman and Aztec relay runners contributed to the stretch-out; and so did the shouting sentinels on Caesar's battle towers, the homing pigeons used at Waterloo, the primitive semaphore employed by George Washington who placed a barrel, a flag and a basket on a mast and then issued orders to his troops by altering their relative positions.

In the present century, the great stretch has come through applications of radio communication. In its first phase, it enabled communication between a fixed point on land and ships at sea and between ships themselves, or between two land areas across the ocean barriers. Today, it is employed by all types of moving vehicles and between fixed stations and relay points on land. The second phase brought the human voice and instrumental music to millions of listeners through radio broadcasting. The third phase brought the stretch-out of sight, first through black-and-white television and now through color.

Vast progress has been made in the art of communications but there are many more promising prospects ahead. The sound of the human voice can be projected directly and almost instantaneously to any area of the world. We have extended sight, by television, so that the people of a nation, or a group of nations on the same continent can see the same picture simultaneously. And we are on the threshold of projecting that picture between continents. In fact, we are very close to the achievement of global television as well as other forms of world-wide communications.

This will represent phase four of the radio communications story. I believe it will be realized in this decade through the use of relay satellites orbited in space. The challenges facing us in this area are no longer how; rather, they are when, what types of hardware, what form of control, what character of international traffic?

•

General Telephone Co. of Indiana, Fort Wayne, is currently conducting a test to determine whether repair service for subscribers can be speeded up by assigning a skilled testman to answer customer complaints.

The practice in the past has been to have a female repair clerk take the subscriber's call, make out a trouble ticket and give it to a testman. The testman would then attend to the complaint at the first opportunity.

With the new plan, the testman takes the call and, having the customer on the line, can use his test instruments and experience to eliminate delays in making repairs in 25 to 35 per cent of the cases of trouble. This is due to the fact that the source of trouble often is not on the customer's premises.

In the majority of the remaining cases of reported trouble, the testman is able to identify the fault, or be of considerable assistance to the trouble shooter ordered out to make repairs.

•

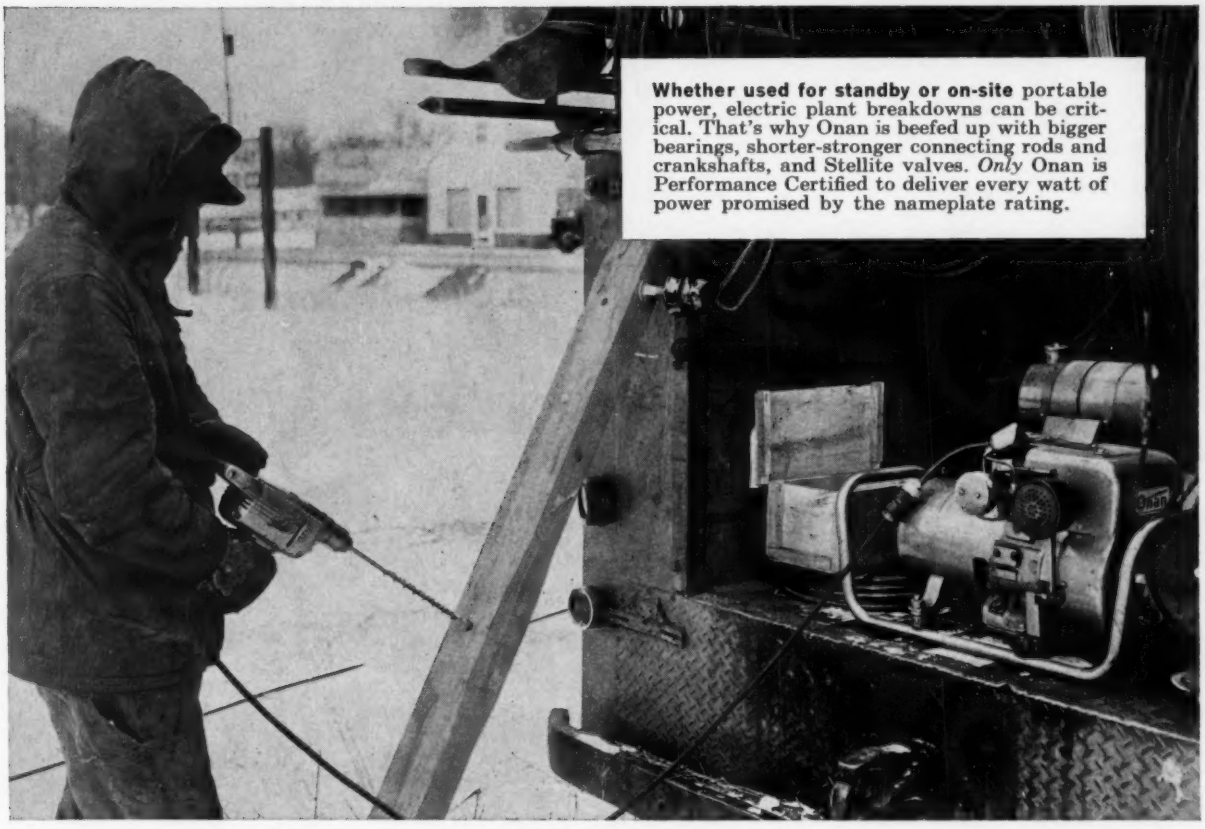
The following is quoted from *On the Line*, published by the Australian Post Office:

"During re-poling on the Port Augusta-Yardea, South Australia, trunk line, some of the old pine poles being replaced had a date stamp showing that they were 'received into Stores in 1872.'"

"Cross Talk"

It is said that the happiest people are the ones who are too busy to notice whether they are or not.

General Telephone Co. of Indiana testmen taking repair service calls. They can often take remedial action while customer is on the telephone.



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It's a fact that many electric plants on the market today do not deliver the output promised by their nameplate rating.

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But this isn't enough. Independent laboratory inspectors pull surprise inspections to double-check our tests and testing methods. They pull a plant off the line, run it, stop it, load it, overload it, check and recheck. Their torture test gives positive proof of Onan's quality. End result: *Onan's exclusive Performance Certification* . . . your assurance of getting every watt of power you pay for.

So when you're tempted by an electric plant "bargain," make sure its nameplate rating is not "inflated." Be sure you're getting full measure for your money. Remember, *the electric plant that shortchanges you in power output is no bargain at any price!* Only Onan is Performance Certified to deliver everything the nameplate promises.

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Broader Industry Viewpoint

Is Necessary, Californians Told

WITH a Hawaiian setting providing a beautiful background, speakers at the convention of the California Independent Telephone Association urged telephone men to broaden their point of view—to realize that they are in the communications business, not just the telephone business.

Asking companies to "think in broader terms," Harlan W. Holmwood of Santa Monica, president of the association, delivered the convention's keynote speech. The meeting was held on June 26 through 30 in Honolulu. Two hundred and ninety mainland telephone men attended, along with 36 representatives of the Hawaiian Telephone Co.

Mr. Holmwood emphasized that the greatest danger to Independent companies today is the possibility that they might permit themselves to be independent of progress. Although the telephone business is referred to as a natural monopoly, Mr. Holmwood said in his opinion this monopoly is a shaky one, which extends only to voice communication over short distances.

"It embraces," he stated, "only the most unprofitable part of our business.

"Scientific advancements and inventive genius are no respecter of franchise rights or of natural monopolies," Mr. Holmwood added.

The industry, he continued, must meet the challenge of providing a greatly expanded and more versatile communications system.

"We may have to retool ourselves intellectually if we are to survive in the environment in which we find ourselves," Holmwood said.

Mr. Holmwood also stressed that telephone companies should take an active interest in their local governments. He pointed out that the telephone company is not an island in the business community. He said:

"Our companies do not stand alone, protected against the ups and downs of the business cycle. Nor are we free of the temperatures and the winds of the business climate. What happens to business in your state happens to you. Factors which discourage investment in industrial expansion have their influence on your earnings. Therefore, you have a direct, personal interest in this subject."

Following Mr. Holmwood's address, a demonstration transpacific call was made by J. Ballard Atherton, president of the Hawaiian Telephone Co., to Willard Wade, former association president, and president of California Interstate Telephone Co., Victorville.

Other speakers at the convention's opening general session were Mr. Atherton, who welcomed the delegates and gave a brief history of the telephone industry in the islands; and the Honorable Neal S. Blaisdell, mayor of Honolulu. Mayor Blaisdell reviewed the growth of the city and the development of public services and utilities in the state.

C. C. Pearce of Riceville, Ia., president of the United States Independent Telephone Association, also emphasized that telephone companies should enlarge their frame of reference.

He said, "During the last world war, and prior thereto, we were largely engaged in transmitting the human voice over wires. Now we have become a communications industry."

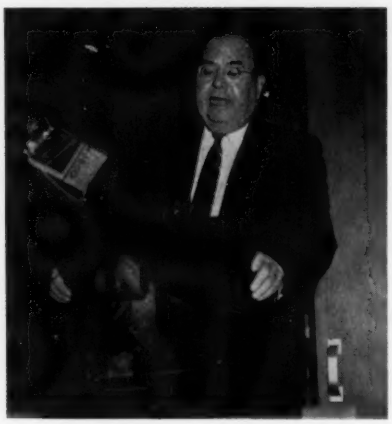
Mr. Pearce painted a picture of the future in which telephone calls and TV programs will be carried by a world-wide communications network of 50 satellites orbiting 3,000 miles above the earth, and in which telephone calls, data transmission, TV to and from the United States and London, Johannesburg, Paris, Sydney, Tokyo and all other major world cities would be beamed thousands of miles through space to repeater stations orbiting in space, then back to earth and the existing communications networks.

Mr. Pearce stated, "I realize we Independents, at least we smaller ones, are not going into the satellite business for a long time to come. However, we had better start planning *today* on how satellite communications and other rapidly occurring inventions are going to affect us tomorrow, and we had better start thinking pretty seriously about what we are going to do to provide a sufficient number of circuits, to accommodate the numerous types of communications which we will be called upon to handle."

He urged cooperation among the Independents to meet the increased competition from other organizations selling communications.

"In this highly competitive and technical age where being one step ahead means survival, the Independent telephone companies must stay more than 'one step ahead' by expanding operations, developing new equipment, offering new services, and by maintaining a position progressive enough to cope with the more complex problems created by society and time," Mr. Pearce concluded.

"The description 'telephone business' is growing increasingly obsolete," Donald C. Power, chairman of the board and chief executive officer of General



The charms of the Hawaiian setting were mentioned by speakers at the convention of the California Independent Telephone Association. Shown addressing the meeting are, above, left, J. B. Atherton, president of Hawaiian Telephone Co.; and right, Donald C. Power, chairman of the board of General Telephone & Electronics Corp. At left is Harlan W. Holmwood, executive vice president of General Telephone Co. of California.

Telephone & Electronics Corp., emphasized in his talk, "The Great Future of Communications."

"Today's requirements," he said, "call for a full range of communications business which is built around our ability to get the right information to the right place at the right time."

He stated that in his opinion the hallmark of the telephone man is ingenuity, "the ability to sense the fact that a new and bigger job has to be done, a job calling for new, and better, and more imaginative ways of doing things."

The entire economic structure of the United States has grown increasingly complicated, Mr. Power stressed, and telephone companies have the challenge of providing whatever services are needed to tie this complicated structure together, and to meet service requirements that have never existed before.

"It has been estimated," he said, "that American business enterprises spent nearly 4½ billion last year on communications, and most of it went for telephone service."

Mr. Power reported that in a recent estimate which he had seen, it was predicted that the number of devices and machines which transmit business data over telephone circuits will reach 6,000 installations this year, in contrast to about 1,200 a year ago. The forecast is for 100,000 by 1965.

Business men in general, he stated, are faced with two major problems involving communications—the need for speed and the increase in paperwork. They look to telephone companies to provide the solutions.

This means, Mr. Power said, that many improvements in data transmission will be needed. He predicted that within a few years telephone facilities will carry more data and image transmission than voice communication.

Turning to the international picture, Mr. Powers commented that "it has been estimated that international telephone calls will grow at an annual rate of 15 per cent from now until 1970, increasing from 2 million calls and revenues of 40 million dollars to at least 10 million calls and revenues of 200 million dollars."

"We won't have the circuits to carry this traffic unless we send satellites to outer space to do the job," he stated.

Continuing, he remarked that "the understandable tendency is to look upon a satellite system as supplementary to existing cable and radio circuits, but its real potential exists in its worldwide service—a truly global communications system which would be a vital force in promoting economic progress throughout the world."

He said that although space communications is an intriguing topic, attention should be paid to what he termed "a more earthy consideration—the matter of capital."

In this regard, he said, "The only way we will be able to raise the capital we need, and at reasonable rates, is to earn an adequate return on the capital already invested in the business."

He outlined three ways to do this:

(1) Raise rates, providing commission approval is obtained.
(2) Reduce expenses and fight increases in overhead.
(3) Sell more telephone services.

Everything telephone companies do is done against the backdrop of the "business climate," — inflation, taxes, foreign competition and every other factor that influences company operations.

Power joined other convention speakers in urging telephone companies to be active in local community affairs, stating:

"Because Washington tends to be so much in the news, it is very easy to forget that the local community is the very heart of our entire way of life. What goes on in Washington, and what goes on in Sacramento and every other state capital, reflects the points of view of people in hometowns all across the country. It seems to me that this is the key to the future: Not only our rate of economic growth but our economic stability and national security will depend upon the skill and the energy with which the local communities solve their local problems.

Dr. Charles Moore, University of Hawaii professor of philosophy, the lone non-telephone man to address the convention, also stressed the obligation of businessmen to participate actively in their communities. He said businessmen must face the "overwhelming opportunity and overwhelming challenge" of setting the moral and cultural standards of America. Moore stated that while there is no special code of ethics for businessmen, ethics are of special importance to businessmen because of their power and prestige in the community.

Businessmen, he commented, must live up to the best in them, and not succumb to expediency and the end-justifies-the-means type of thinking.

"Sales and profits are not so important as your sense of values," said Moore.

(Continued on page 54)

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today's Highlights

of finance-taxes-business trends

by Willard F. Stanley

BOND MARKET MARKS TIME: In the 30 days prior to July 24, little change was evidenced in the bond market. During the latter portion of this period, however, there was a moderate ground-swell of optimism with respect to the prices of utility and corporate funded debt. At that time, both the AT&T and Con Ed issues were quoted at prices somewhat above those at which they were originally offered.

The Wall Street Journal tabulation of new utility funded debt issues at July 20 made a somewhat remarkable showing, in that there was practically no difference between the average bids on that date for the 17 new issues included in the tabulation, and the average original offering prices of the same securities.

The difference in yield was only a small fraction of a single decimal (less than 0.01 per cent per annum). Other aspects of the tabulation, however, gave a more optimistic picture. For example, 11 of the 17 issues showed higher bid prices at the above date than their offering prices, while in the case of only 6 issues, the offering prices were higher than the current bids. The U.S. treasury financing, to the extent of 16 billion dollars (the largest in two years), which took place during the week commencing July 17, was announced to have been successful.

Most of the securities were offered in exchange for existing federal obligations; and 11.8 billion dollars of the new obligations was accepted by holders in exchange for their former holdings.

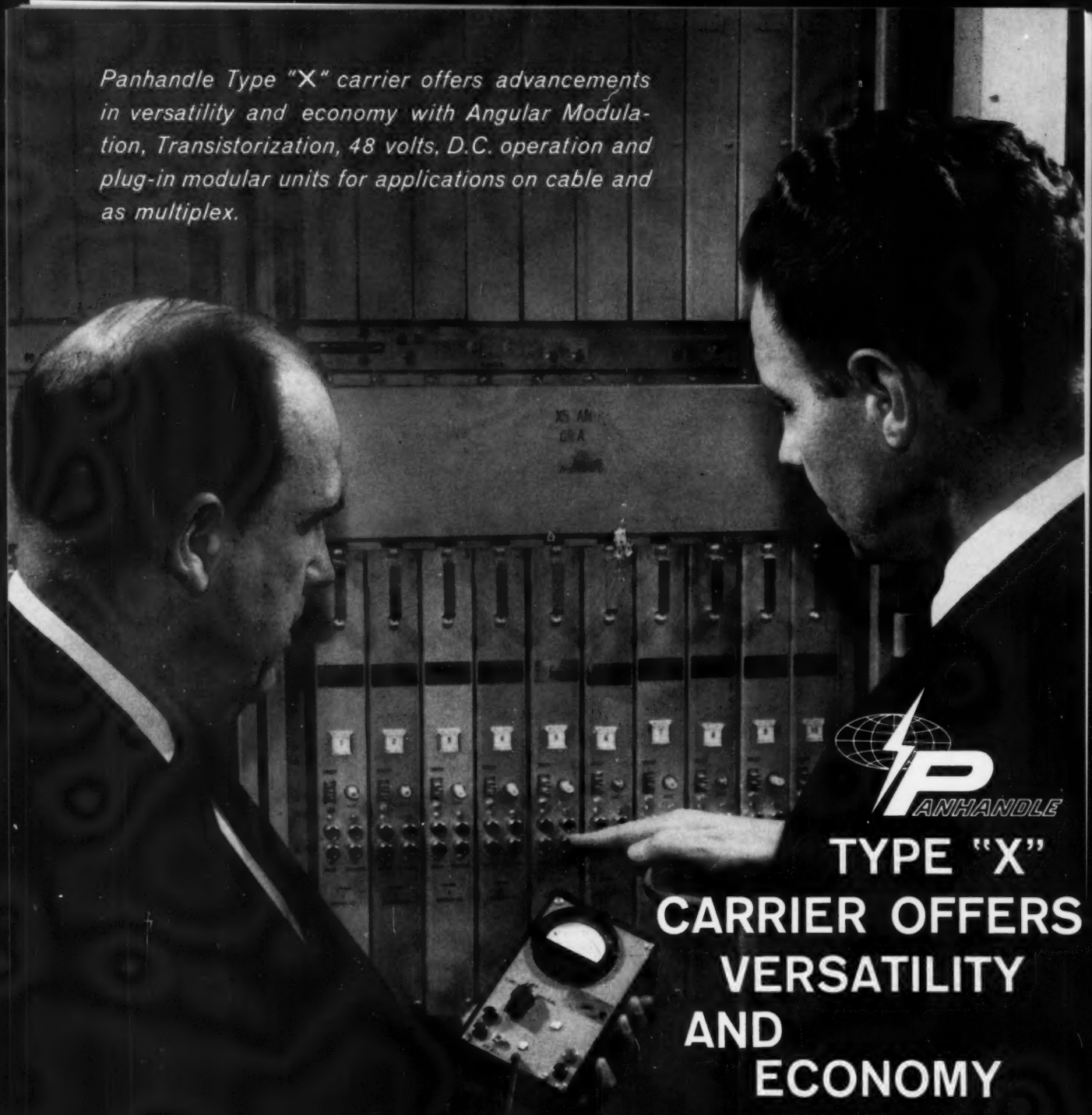
It is significant, however, that less than 7 per cent of the exchanges was made into a seven-year maturity issue, which was included in the over-all offering schedule, the other issues being of much shorter length—one and two years.

Since exchanges in the longer term obligations were so small, the offering did not create any serious competition with utility and corporate bonds. Usually, a federal issue must be of a 10-year maturity, or more, in order to be so competitive.

It is said that the forthcoming schedule of new offerings is smaller than has been recently experienced. With this factor, and the optimistic undercurrent that prevails, it seems not unlikely that further diminution in bond yields may be witnessed within the next 30 days, but probably only to a moderate degree.

However, with the recession sinking further into the past each month, it seems probable that increased borrowing demands in the near term future may hold down any exuberance in the bond market, and tend to keep prices and yields steady at something near present levels.

Mr. Stanley, formerly a utility financial executive, is now president of Corporate Services, Inc. of New York City and is well known as a financial writer. He is a member of the Controllers Institute of America and the New York Society of Security Analysts. He serves on the Finance Management Committee and the Tax Committee of the Controllers Institute (N. Y. Control). His articles are appearing once a month in TELEPHONY.



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There seems to be no reason at this time for utility managements to hasten, or delay, normal schedules of offerings of funded debt and other senior securities.

As to utility common stocks, after an advance in price-earnings ratios in each of the 12 months ended in June (excepting only October, 1960), the average price-earnings ratio reached a stumbling block and dropped from 20.8 in June to 20.5 in July. This still obviously represents such cheap equity money to the issuer as to make equity financing desirable to cover requirements for this type of funds into the mid-term future.

* * * *

STOCKS RISE ON DEFENSE BUILD-UP—Until the day of President Kennedy's Berlin speech, the stock market averages had slipped considerably during July. But commencing with Tuesday, July 25, the averages rose sharply, until, at the close on July 28, the New York Times 50 combined stock average was nearly 3 per cent above the level of June 23. This sharp rise reflected inflationary aspects inherent in the increased defense spending because of the Berlin crisis, plus satisfaction that no new taxes were being asked for presently.

At July 28 the Times average represented a 14 per cent rise over the end of 1960; a 5 per cent drop from the close of 1959; and a 7 per cent enhancement in value as against the average as of Dec. 31, 1958. Continued inflationary pressures due to the Berlin crisis may impel further rises in the market average. With the recession about over, the business outlook is becoming increasingly favorable, although, of course, this factor may have already been "discounted" in the market's rise early this year.

* * * *

RECESSION DEFINITELY ON WAY OUT: If any doubt remained after the past few months that the recession had practically run its course, more recent statistics have served to remove it. Latest monthly disclosure of the rate of industrial production showed a considerable rise from the preceding month, and was sufficient to offset all the loss in this item experienced during the preceding recession.

Gross national product reached a record for the second 1961 quarter, about 3 per cent above the preceding quarter. Also, retail store sales, according to the most recent figures, have continued to rise. The only significant statistic on the debit side has been the continued loss in railroad car loadings (week of July 15th), as against 1960. The plight of the railroads, the eastern ones in particular, continues to give cause for concern, with the situation recently emphasized by the required reorganization of the New Haven road.

But, on the whole, it seems safe now to predict that not only is the worst of the recession over, but that all of it should soon be a thing of the past.

* * * *

FEDERAL INCOME TAXES: The Ways and Means Committee of the House has concluded its hearings on the matter of Federal taxation, including the proposed new tax credit for expansion of facilities, and has adopted this latter feature in a form substantially different from that in which it was originally presented.

Instead of granting higher rates of tax credits, in cases where expansion greatly exceeded the amount set aside for depreciation, the modified provision grants an 8 per cent flat tax credit on all new property constructed after January 1, 1961, and used property up to $50,000, provided it has a life expectancy of 6 years or longer, without regard to the relation of the expansion to depreciation charges.

A company, for example, which expanded by 100 per cent over the depreciation allowance, would have received a credit equal to 9 per cent of its total expansion under the original proposal, as compared with 8 per cent under the new modification.

From the newspaper reports, it appears that the provision for credit, as voted by the committee, still excludes public utilities from the benefit of the tax credit, except railroads, which were named in the original proposal, and natural gas pipelines which have been added as exceptions from the exclusion by the committee.

The reasoning back of this change was not given in the newspaper reports, but perhaps it was felt that the natural gas pipeline operations did not involve the factor of monopoly and compulsory expansion to the same degree as in the case of electric and telephone utilities and gas distribution companies. Of course, there is still a chance for further changes when the Senate Finance Committee considers the measure.

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Courts and Commissions

OK Employe Stock Sale Plan for Western Power

The Western Power & Gas Co., whose principal office is in Lincoln, Neb., was given permission on July 26 by the Nebraska Railway Commission to issue options for up to 75,000 shares of its common stock of the par value of $5.00 per share in connection with its restricted stock option plan; and to issue up to 10,000 shares pursuant to its sixth employes' stock purchase program.

In addition to gas and electric properties, the company owns the majority of the common stock of the Central Telephone Co. and the Southeastern Telephone Co. The Central company, in turn, owns the majority of the stock of the LaCrosse (Wis.) Telephone Corp., Lexington Telephone Co., Charlottesville, Va., Middle States Telephone Co. of Ill., Des Plaines, and the Virginia Telephone & Telegraph Co., Charlottesville. These companies do business in Minnesota, Illinois, Iowa, Wisconsin, Virginia, North Carolina and Florida.

Under the terms of the stock option plan, shares of common stock may be optioned to all or some of the key employes and executives of the company and its subsidiaries at not less than 95 per cent of the fair market value at the date of the option. An option may not be exercised for two years after date of grant and may then be exercised to the extent of 20 per cent in the third year and each subsequent year so that in the seventh year it becomes fully exercisable. Options may not be exercised more than 10 years from the date of the grant.

Under the employes' plan, each employe having one or more years of service will have the right, during a limited period, to make a cancellable subscription for between 10 and 100 shares of common stock at a price $3.00 per share less than the average market price in the month of completion of payment of the subscription, subject to a minimum price of $3.00 per share below, and a maximum price $3.00 per share above, the approximate market price at the date the program became effective.

The subscription payment will be accumulated through monthly payroll deductions at the rate of 75 cents per month for each share subscribed, with accumulations to bear 4 per cent per annum compounded annually. It is estimated that, in the ordinary course, the term of payments will require a minimum of 30 months and a maximum of 38 months. The company has approximately 3,550 employes.

Kentucky General, Bell Toll Case Goes to Circuit Court

General Telephone Co. of Kentucky has filed a complaint in the Franklin Circuit Court naming the Kentucky Public Service Commission as defendant and Southern Bell Telephone & Telegraph Co. as a party, it was announced on July 28 (TELEPHONY, July 1). The suit seeks to set aside and vacate the order of the commission in which General's request, that certain principles and methods be recognized as proper in determining the basis for toll settlements between General and Southern Bell, was denied by the commission.

The suit is the outgrowth of a complaint filed by General on Mar. 23, 1960, with the commission against Southern Bell relating to the division of current revenues from intrastate toll telephone service furnished jointly by General and Southern Bell in Kentucky.

General, in its action before the commission, sought recognition of principles and methods set out in a manual developed through the cooperative effort of the National Association of Railroad & Utilities Commissioners and the Federal Communications Commission. (For discussion of the methods the commission considered to determine what proportion of General's plant and costs were allocable to message toll service, see above reference.)

General, in the complaint just filed, mentioned that settlements between the two companies in the past have been made on the basis of an amount per toll message negotiated with the Bell System by the United States Independent Telephone Association.

The commission, on June 2, 1961, issued its opinion and order in the complaint wherein it found that the procedures advocated by General should not be used. General's petition for rehearing on the commission's order of June 2 was also overruled on July 7, 1961.

Hear 2 Mo. Sale Requests; OK Toll Property Exchange

The joint application of the Norborne Telephone Co. to sell; and of the Green Hills Telephone Corp., Breckenridge, to buy the former's system, establish EAS, and secure an interim operating agreement was received by the Missouri Public Service Commission on July 21.

•

The commission on July 24 held a hearing on the joint application of Home Telephone Co., Perry, to sell, and of Gem Telephone Co. to purchase telephone property in Laddonia, Perry, Santa Fe, and Stoutsville, and adjacent territory, and to execute a loan for expenditures on the purchased systems.

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The Missouri commission on July 26 granted authority to General Telephone Co. and to Southwestern Bell Telephone Co. to exchange toll properties in and around Gower, St. Joseph, Agency, Kingston, Hamilton, and Cameron.

Colo. Judge Convicts Youth In Wrong Number Fraud

James E. Johnson, 18, was found guilty on July 17 by Denver, Colo. Municipal Judge Sherman G. Finesilver of obtaining service under false pretenses from Mountain States Telephone & Telegraph Co.

Johnson was charged with giving the wrong telephone number for billing purposes when he called Chickasha, Okla. under the direct distance dialing system recently. The call lasted 90 minutes for a charge of $30.09.

Prosecution witnesses said Johnson had made a number of similar falsely billed calls during the year.

Hear Sale Requests, Dial, EAS Petitions in Wisconsin

The Wisconsin Public Service Commission set a hearing on Aug. 1 for the petition of the Little Sturgeon Telephone Cooperative to sell and of For-

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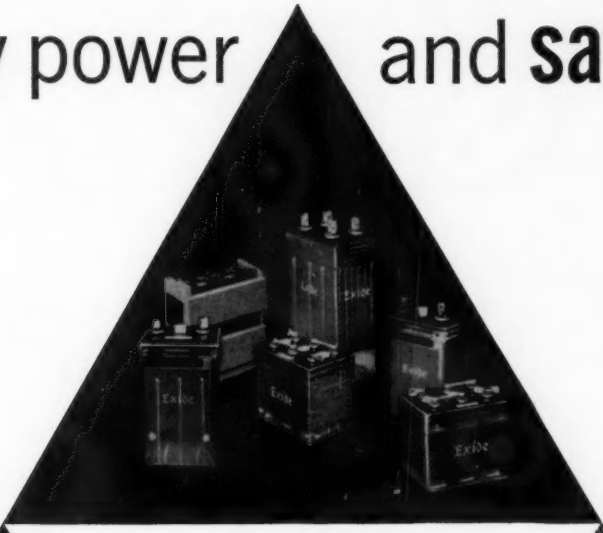

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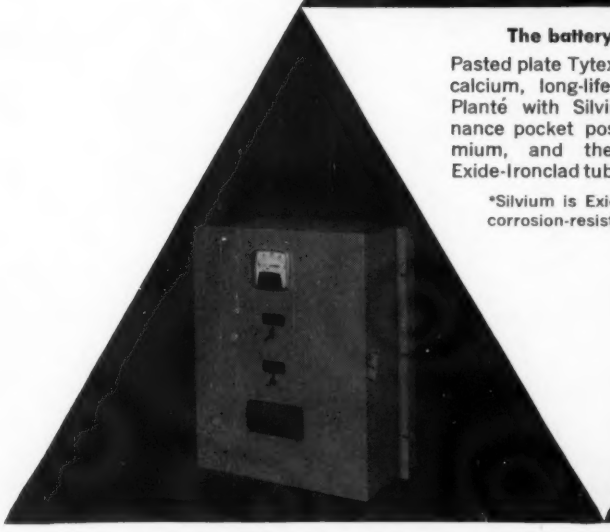
*Silvium is Exide's patented corrosion-resistant grid alloy.



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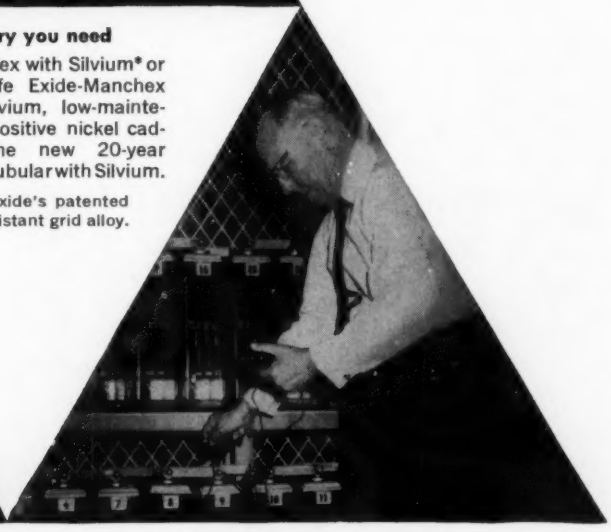

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The Electric Storage Battery Company (ESB)

estville Telephone Co. to purchase, the cooperative's property. Forestville has also asked to convert the Little Sturgeon exchange to dial, offer extended area service to Forestville's Brussels exchange and to the Sturgeon Bay exchange of the Wisconsin Telephone Co., and apply the Brussels rates.

•

On the same date, the commission was to hear the application of the Oconto Rural Telephone Co. for authority to install dial facilities to provide extended area service from its Abrams exchange to the Oconto exchange of Wisconsin Telephone Co.

Grant Rate Increase; Receive Financing Request in Ill.

The Illinois Commerce Commission on July 26 authorized the Leaf River Valley Telephone Co., Leaf River, to increase its rates (TELEPHONY, July 1).

•

The commission also, on July 29, received the application of the Northwestern Telephone Co., Freeport, for an increase of, and change in, the par value of its authorized and issued 120,000 common shares from $10 to $15 per share, and for the transfer of $600,000 from its unappropriated earned surplus to its capital stock account.

Schedule Rate Hearing in Nebraska; Seek Loan OK

The Nebraska Railway Commission on July 28 was to hear an application of the Northern Telephone Co., Blair, to increase rates for local service at Creighton, effective Sept. 1.

Another hearing was set for the same date on a request by the Eastern Nebraska Telephone Co., Blair, to borrow up to $285,000 from the Stromberg-Carlson Credit Corp.

FCC Urges Common Carriers Speed Space Communications

The Federal Communications Commission on July 25 called upon the international communications carriers to organize promptly an *ad hoc* (for this specific purpose) committee to speed plans for their joint development, construction, ownership and operation of a commercial satellite communications system.

Because of the prime importance given by the commission to this undertaking, it is requiring the committee to report as soon as possible, but in no event, later than Oct. 13.

Members of the committee will be representatives of the American Cable & Radio Corp. (Mackay Radio, Inc., The Commercial Cable Co., All America Cables & Radio, Inc., and Globe Wireless, Ltd.); American Telephone & Telegraph Co.; Hawaiian Telephone Co.; Press Wireless, Inc.; Radio Corp. of Puerto Rico; RCA Communications, Inc.; South Porto Rico Sugar Co.; Tropical Radio Telegraph Co.; United-States-Liberia Radio Corp., and The Western Union Telegraph Co.

The FCC expects that the committee will invite representatives of government agencies and industry to participate in the discussions for the purpose of obtaining any related helpful advice and assistance.

The commission will later designate a representative to attend the committee meetings to see that the sessions adhere to prescribed agenda.

It has been specified that the committee will consider, but not be limited to, the following public interest objectives:

(1) A commercially operable communications satellite system will be expected to provide the potential means for global coverage.

(2) Ownership of the satellite portion of the system will be shared with interested foreign governments or communication agencies.

(3) All such foreign governments or communication agencies, whether or not participating in ownership of the satellite portion of the system, will be entitled to access to the system on any equitable basis and on reasonable terms.

(4) Any joint venture of international common carriers shall be so arranged or structured as

(a) To prevent any single participating carrier from being in a position to dominate or control the development, construction, management, operation or use of the communications satellite system to the detriment of any other common carrier, whether or not such other common carrier or carriers participate in the joint venture as an owner thereof.

(b) To permit future ownership participation by any international carrier that may subsequently be created, or any existing international common carrier which subsequently may desire ownership participation.

(5) The plan of organization and operation of any joint venture must make clear and definite provision to insure that existing and future international common carriers, whether or not any such carrier participates through ownership in the joint venture, will have equitable access to, and non-discriminatory use of, the satellite system under fair and reasonable terms, for the purpose of obtaining communications facilities, in the system, to serve overseas points with the types of services for which they are, or may be, licensed or authorized by the commission.

(6) The plan of organization and operation of any joint venture shall make adequate and effective provision, such as competitive bidding, to insure that there will be no favoritism in the procurement of communications equipment required for the construction, operation and maintenance of the satellite sys-

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Model 103 includes the matching cover in chrome or brass satin finish. The cover encloses the amphenol plugs and jacks when used with key telephone sets or other complex equipment.
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tem, and to foster opportunity for continued research and development activity by all enterprises seeking to compete in furnishing such equipment for the satellite system.

(7) The accounting and records maintained by any joint venture shall be of such a nature and detail as to reflect fully its investments, expenses, taxes, revenues, assets and liabilities, and to comply with all applicable governmental regulations with respect to such matters.

The commission further asks for the results of the committee's discussions as quickly as possible so that this information, together with all other information and proposals, will enable it to take further steps to achieve the establishment of a satellite communications system at the earliest practicable date.

The *ad hoc* committee's written report is required to describe and explain fully the proposed organization and operation of the joint venture. It will also include information as to the capital contributions to be committed by each participant, and the extent to which it intends to provide any equipment or other services.

In addition, on behalf of each participant which also owns, operates or controls common carrier communication facilities furnishing service within the United States, a full description is required of all policies and practices which it proposes to apply with respect to the interconnection of its facilities with those of any international common carrier.

The committee will furnish all respondents in this proceeding (Docket 14024) with a copy of its report, and they will have 15 days to submit written comments to the commission. The current action is by a supplemental notice of rule making in that docket.

Study Federal Bills To Broaden Slug Restrictions

At hearings on legislation to further restrict the use of slugs in lieu of money, the United States Independent Telephone Association estimated that Independent companies lose about $100,000 yearly on this count. The Bell System estimates its slug losses at $800,000.

The bills under consideration would broaden an existing provision restricting the manufacture and use of metallic devices intended to pass as money. The present law does not cover coins of larger denomination, paper money, plastic or other materials. The legislation under consideration would impose a penalty for the use of something other than U.S. legal tender to obtain something of value. Coin box telephones are included among machines in which the use of such devices is prohibited.

. . . Measures absolute amplitude and relative delay characteristics of 600 ohm transmission circuits from 200 cycles to 24 kc. Temperature range 32°F to 130°F with 60 cycle line voltages from 105 to 125 volts. Overall precision and accuracy ±50 microseconds. Drift rate not exceeding ±50 microseconds per 30 minutes.

SPECIFICATIONS OF THE 451-A TRANSMITTER

CARRIER SWEEP RATE: Carrier frequency controlled manually or by a motor driven sweep capacitor at two sweep rates:
a. 1 cycle per 10 seconds, or 6 rpm.
b. 1 cycle per 100 seconds, or .6 rpm.

CARRIER FREQUENCY: Continuously adjustable from 200 cycles to 12 kc. The sweep width and position is adjustable within the 200 cycle-12 kc. limits. The minimum sweep width is 1500 cycles. An external oscillator can be used up to 24 kc.

REFERENCE FREQUENCY: Means are provided for switching the carrier frequency (normally controlled by the sweep capacitor) to a reference frequency anywhere in the 200 cycle to 12 kc. band.

MODULATION FREQUENCY: 25 cycles, derived through counting circuits from tuning fork control oscillator. 2 kc. tuning fork stability ±3 ppm at room temperature.

FREQUENCY METER: Carrier frequency continuously indicated on a direct-reading meter with an error not exceeding ±2.5% of full scale. Frequency meter calibration can be checked by inserting a 2 kc. signal from the local fork oscillator circuit.

TRANSMITTER OUTPUT SIGNAL: Output level adjustable in 5 db steps from −20 dbm to +10 dbm. These figures represent the peak power in the 50% modulated output signal applied to the output terminals. Maintains internal impedance of 600 ohms ±10 ohms from 200 cycles to 24 kc. The frequency characteristic of the output terminals is flat to within ± .25 dbm from 200 cycles to 24 kc.

TRANSMITTER SYNC. OUTPUT: 2 kc. signal can be used as a common time base in both the transmitter and receiver.

SPECIFICATIONS OF THE 452-A RECEIVER

INPUT IMPEDANCE: Internal impedance is 600 ohms ±10 ohms from 200 cycles to 24 kc.

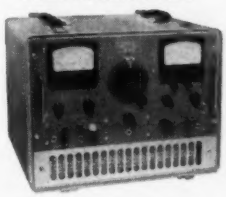
INPUT LEVEL: The receiver will perform satisfactorily over the range from +10 dbm to at least −30 dbm by use of the manual attenuator control and operate over any 20 dbm range within the specified limits without change in the attenuator control. The input-level is indicated algebraically by an input attenuator calibrated in dbm and level meter calibrated in dbm. The meter range is 20 dbm; the attenuator range is 25 dbm in 2.5 db steps. All readings are peak input power to the receiver.

DELAY MEASUREMENTS: Delay is indicated on a relative basis, reference being to a cardinal point in the frequency band between 200 cycles and 24 kc. Measurements are obtained from a direct-reading meter which has two sensitivities: 2 ms and 20 ms full scale. The 0 to 2 ms range may be positioned anywhere in the 0 to 20 ms scale by means of a coarse control which adds or subtracts precise 500 microsecond increments of delay in the reference channel. A fine control is provided to obtain cardinal point adjustment.

FREQUENCY METER: Same as Transmitter.

AMPLITUDE TO PHASE CONVERSION: With a 20 db change in amplitude, the output delay indication will not change by more than ±50 microseconds.

TYPE 453-A COMPACT MEASURING SET



Measures Attentuation and Relative Delay Characteristics of Transmission Systems with Impedance of 600 ohms.

Carrier frequency Range 500 cps to 50 kc. Accuracy − ± 5 microseconds.

Delay is measured by comparing the time relationship between the transmitted and received signals.

MODULATION FREQUENCY: 62.5 cps derived through frequency dividing circuits from a tuning fork controlled oscillator.

TRANSMITTER OUTPUT: Two output levels 0 dbm and −4 dbm, floating and balanced. Output impedance 600 ohms ± 30 ohms over range 500 cps to 50 kc. Frequency characteristics of output signal flat to ± .5 db.

RECEIVER INPUT: Balanced and floating with an input impedance of 600 ohms ± 20 ohms from 500 cps to 50 kc.

DELAY MEASUREMENTS: Indicated on a relative basis. Always read on the 0 to 0.2 M.S. full scale range. Coarse and Fine Delay switches and Fine Phase Control for precise adjustments.

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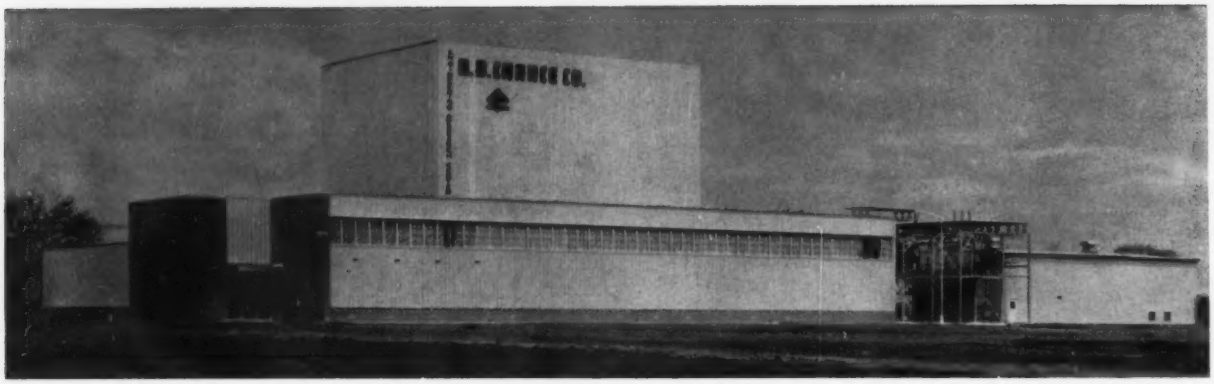

Exterior view of the F. Gano Chance Engineering Research Center located in Centralia, Mo., near the general offices of the A. B. Chance Co. New center, recently completed, is now in full operation.

F. G. Chance Engineering Research Center Operating

The A. B. Chance Co. reports that its new F. Gano Chance Engineering Research Center constructed during the past winter is now in full operation. The research center contains 32,000 square feet of office and laboratory space in the two buildings on an 18-acre tract located near the company's general offices in Centralia, Mo.

C. H. LeVee, vice president, engineering, is in charge of the new facility and has extended an invitation to utility personnel to visit the new center and observe the operation and testing equipment.

The exterior appearance of the main building is dominated by the high-bay construction of the center's high voltage laboratory. This lab has a ceiling height of 62 feet, necessary to accommodate the towering 2,400,000-volt impulse generator. Sixty-cycle dielectric test transformers, with a 1 million-volt capacity are also located in this laboratory.

A short circuit laboratory with specially designed equipment is used to test protective devices, switchgear and other apparatus. The 762,000-KVA generator is the key piece of equipment in the lab, which also includes a test substation with two single-phase, 200,000-KVA short-circuit transformers. The substation and testing circuits

F. GANO CHANCE

C. H. LE VEE

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were designed by Chance engineering personnel.

Other facilities in the center include mechanical, plastics, heat run, environmental, fuse link and electrical measurement laboratories. The latter area includes calibration equipment to insure the accuracy of all testing instruments.

A model shop is also incorporated as part of the research center.

Outdoor mechanical and electrical test areas are located adjacent to the engineering research buildings.

Facilities of the new Chance research center will be made available to utilities, engineering colleges and other manufacturers serving the electrical industry.

FCC Dismisses GT&E, GE Space Satellite Requests

The Federal Communications Commission on July 25, by a memorandum opinion and order:

(1) Denied that part of a petition bv General Telephone & Electronics Corp. requesting to be considered an international common carrier as the term is used in the (commission's) first report, and dismissed, without prejudice to its further participation in these proceedings, its further request that domestic carriers be included in the venture.

(2) Dismissed, without prejudice to its further participation in these proceedings, a joint petition by General Electric Co. and its subsidiary, Communication Satellites, Inc., that the commission's first report in this proceeding be modified to open the commercial satellite communications venture to respondents in that docket, others in the aerospace and communications industries, and the general public (TELEPHONY, June 17, p. 42; May 20, p. 34).

In dismissing these petitions, the FCC said it is still gathering essential preliminary information about various proposals, and went on to state:

"Any proposal or information that may evolve from this further stage of the inquiry, together with all information and proposals supplied by petitioners (General Electric and General Telephone) and others, will provide a basis upon which the commission, consistent with the public interest, and applicable legal procedures, will take such further action . . . to achieve the expeditious establishment of a commercial satellite communications system.

"At such time, all interested parties will be afforded full opportunity to be heard with respect to any rules, policies, or other actions that the commission proposes to adopt."

Difference of Degree

"There are lies, damned lies, and statistics."—MARK TWAIN.

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W. E. 354 WALL and W. E. 302 DESK TELEPHONES

Self-Contained Sets with the appearance and operation of a new unit, equipped with Straight Line Ringer, or most Cycles can be supplied.

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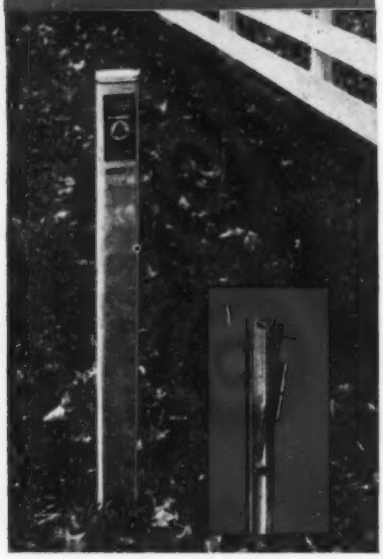

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INDIANA Terminal Housings are heavily galvanized AFTER forming for longer life. Available in both pedestal and pole-mounted types and in four models capable of accommodating from one pair to 400 pairs.

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Obituaries

HARRY G. LANKFORD, 78, retired general commercial agent of the Illinois Bell Telephone Co., died on July 26 in Madison, Wis., where he had been making his home.

H. G. LANKFORD

Because his widow is an invalid and was unable to attend the funeral services, a special telephone line was connected between the Lankford residence and the funeral home, so that she could hear the services.

When Mr. Lankford retired in 1948, he had served Illinois Bell and its predecessor for 44 years.

He began his telephone career in Petersburg, Ill., his home town, as a messenger and night operator with the Central Union Telephone Co. From 1902 to 1903 he acted as repairman. In 1905, he became a collector in Springfield, Ill. and later served as clerk.

Other positions he held were: district special agent, South Bend, Ind., 1908; special agent, Bloomington, Ill., 1911; special agent, Springfield, 1912-1913; district commercial manager, Centralia, Ill., 1914; special agent, Springfield, 1914; agent for connecting companies, Springfield, 1919; division commercial manager, Springfield, 1920.

Mr. Lankford became Illinois Bell's division commercial agent in Springfield in 1920; and in 1922, he was named division commercial agent and chief commercial agent. He became general commercial agent of the state area in 1927.

He was a former vice president of the Illinois Telephone Association, and served that group as a director from 1920 to the time of his retirement from Illinois Bell.

Survivors include the widow, Lulu; two daughters, Mrs. A. R. Larson of Bloomfield Hills, Mich., and Mrs. H. F. Borenz of Madison; a son, Harry G. Jr. of Wichita, Kan., and 10 grandchildren.

HENRY GRADY TURNER, retired vice president of Southern Bell Telephone & Telegraph Co., died on July 23 in Atlanta, Ga. Mr. Turner had spent 43 years in the telephone business.

A native of South Carolina, Mr. Turner began his career with Southern Bell in Spartanburg, S. C., after his graduation from Wofford College.

In 1929 he was appointed traffic superintendent for Southern Bell in Alabama, having previously spent 10 years in the company's traffic departments in Knoxville, Chattanooga and Memphis, Tenn.; Birmingham, Ala. and Darlington, S. C.

He went to Atlanta in 1942 as general traffic toll supervisor and was promoted to assistant vice president in the operations department in 1949.

Five years later he became general manager for Southern Bell in Mississippi, becoming vice president for the state in 1956.

In 1957 he returned to Atlanta as vice president of the company's merchandising and marketing department. He retired from this post in January, 1961.

While in Jackson, Miss. he served as chairman of the Industrial Advisory Committee for Mississippi State College

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were made for Your Comfort!

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and as national vice chairman of the American Red Cross.

Survivors include his widow; a daughter, Mrs. William P. Furr of Jackson; a son Charles Leavitt Turner of Atlanta; and three sisters, Mrs. Virginia Matthews, Mrs. George Hylton and Estelle Turner, all of Atlanta.

•

PAUL C. THOMSON, 68, retired employe of General Telephone Directory Co., died on July 20 in Ocean City, N. J. Mr. Thomson had spent 27 years in the telephone directory advertising business.

He had been associated with Loomis Advertising Co. for over 20 years, prior to joining the General Telephone Directory Co. in 1956.

At the time of his retirement in 1958, Mr. Thomson was sales supervisor for the company in Bloomington, Ill.

After his retirement Mr. Thomson was a resident of Philadelphia. He is survived by his widow, Mrs. Marguerite Thomson, and two sons, Frank and Paul Jr.

Centralize Control of Defense Dept. Leased Lines

The Defense Communications Agency (DCA) has been appointed by the Secretary of Defense as the central control point for the management of leased private line communications required by all sections of the Department of Defense.

As of Jan. 1, the Army, Navy and Defense telephone service responsibilities will be limited to service inquiries and preliminary arrangements.

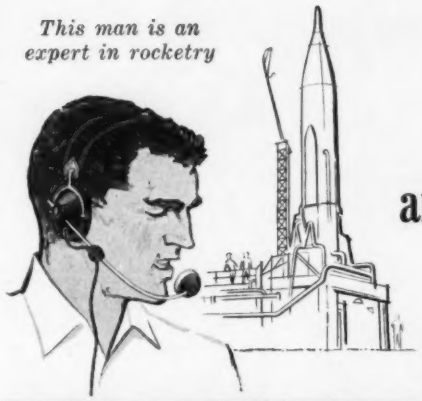
Final negotiations, issuance of communications service authorizations and payment of bills for service will be handled by the Department of the Air Force. This establishes the Defense Department as a single customer under a company's rate and tariff provisions.

The plan is not applicable to post, camp, station and base local communications requirements.

Up British Telephone Rates

The British government it was reported by the *Wall Street Journal* on July 25, has increased postal, telephone and telegraph charges in an initial move to get Britain's economy on an even keel. Postmaster General Reginald Bevins told the House of Commons the new rates are designed to raise Post Office revenues by the equivalent of 70 million dollars yearly. The announcement came 24 hours before the scheduled presentation to Parliament of a new austerity program, designed to combat inflation and strengthen the pound.

This man is an expert in rocketry



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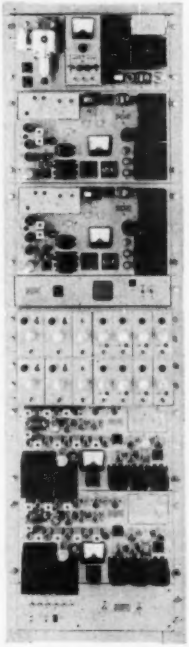
Result: Only BUDELMAN Builds the Complete Package...

reliable, economical, compatibly designed Radio and Speech Multiplex Systems for most systems requirements



Whatever your microwave need up to 60 channels, Budelman has the economical method of filling it.

- Type 14CW-2KMC Microwave Links for short-haul gap fillers or multi-hop repeater trunk circuits . . . Straightforward design and engineering . . . no Klystrons or other critical components or circuits . . . virtually *trouble-free*. 14CW links and 49A multiplex modules were designed for use together . . . *prove in* where other makes cannot.
- Type 14BN/BW-960MC terminals — your best buy for "thin-route" multiplex radio systems and spur circuits . . . for base station control, telegraph and telemetering. Low-cost companion 450MC equipment also available for multi-channel speech circuits.

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MARKETING MAKES MONEY

Continued from page 25

tomers in the conduct of their business. Through these contacts, we are building customers' confidence in our ability to serve all of their communication requirements. As a result of the development of this confidence, it is our hope that our business customers will consult with us any time they may have any communication requirement, thus enabling us to meet and beat our competition.

13 Exchanges Cited

To assist other companies in making preliminary evaluations of the sales possibilities in their exchanges, let's review the sales results in a few typical exchanges served by General companies and see if our experience might not make it possible for them to make some projections. In the following examples, the annualized sales figure is simply the net increase in billing for one month and this figure is then projected on a 12-month basis. The sales expense is expressed as a per cent of the sales revenue that was received, and the customers contacted is expressed as a percentage of the total business customers. It is important to think of the revenue that is reported in relationship to the customers contacted during the period that we are analyzing. Following are sales reports on 13 typical exchanges:

Exchange—Hopedale, Ill.
Total telephones 461
Period ..... Year 1960
Business customers 31
Customers contacted 87%
Annualized sales ..... $ 7,248
Non-recurr. rev. ..... $ 438
Sales expenses 4%

* * *

Exchange—Prospect, O.
Total telephones 590
Period ..... Year 1960
Business customers 55
Customers contacted 20%
Annualized sales ..... $ 496
Non-recurr. rev. ..... $ 36
Sales expenses 29%

* * *

Exchange—Mt. Zion, Ill.
Total telephones 1,060
Period ..... Year 1960
Business customers 60
Customers contacted 22%
Annualized sales ..... $ 1,436
Non-recurr. rev. ..... $ 81
Sales expenses 9%

Exchange—Dunlap, Ind.
Total telephones 1,210
Period ..... Year 1960
Business customers 60
Customers contacted 63%
Annualized sales ..... $ 3,169
Non-recurr. rev. ..... $ 234

* * *

Exchange—Churubusco, Ind.
Total telephones 1,547
Period ..... Year 1960
Business customers 95
Customers contacted 96%
Annualized sales ..... $ 2,260
Non-recurr. rev. ..... $ 171

* * *

Exchange—Fairbury, Ill.
Total telephones 1,603
Period ..... Year 1960
Business customers 176
Customers contacted 47%
Annualized sales ..... $ 9,258
Non-recurr. rev. ..... $ 789
Sales expenses 10%

* * *

Exchange—Greenfield, O.
Total telephones 2,516
Period ..... Year 1960
Business customers 226
Customers contacted 24%
Annualized sales ..... $ 4,255
Non-recurr. rev. ..... $ 520
Sales expenses 17%

* * *

Exchange—Washington, Ill.
Total telephones 2,584
Period ..... Year 1960
Business customers 172
Customers contacted 95%
Annualized sales ..... $ 15,511
Non-recurr. rev. ..... $ 576
Sales expenses 11%

* * *

Exchange—New Haven, Ind.
Total telephones 3,182
Period ..... Year 1960
Business customers 218
Customers contacted 56%
Annualized sales ..... $ 9,515
Non-recurr. rev. ..... $ 1,042

* * *

Exchange—Bryan, O.
Total telephones 4,300
Period ..... Year 1960
Business customers 400
Customers contacted 64%
Annualized sales ..... $ 15,448
Non-recurr. rev. ..... $ 4,520
Sales expenses 13%

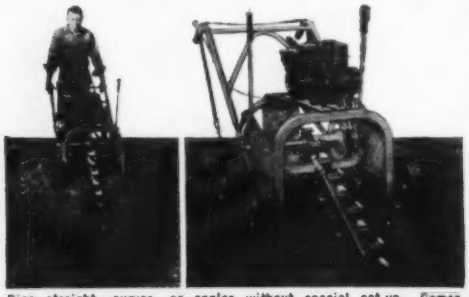
* * *

Exchange—Greencastle, Ind.
Total telephones 4,906
Period ..... Year 1960
Business customers 359
Customers contacted 81%
Annualized sales ..... $ 20,294
Non-recurr. rev. ..... $ 1,834

* * *

Exchange—Valparaiso, Ind.
Total telephones 9,895
Period ..... Year 1960
Business customers 694
Customers contacted 85%
Annualized sales ..... $ 57,737
Non-recurr. rev. ..... $ 4,898

TELEPHONE COMPANIES USE POW-R-SPADE to lay cable and conduit. Savings and extra profits on every job. Have your own machine. No waiting. No delays.



Digs straight, curves, or angles without special set-up. Comes completely assembled. One man operation from start to finish.

OR TEAR OUT THIS AD — ATTACH TO LETTERHEAD AND

POW-R-SPADE
PORTABLE TRENCHER

"A labor saver, easy to operate, and profitable"

Fast trenching at lowest cost. Reduces man-hours to minutes. Eliminates disadvantages of subcontracting. A profitable, inexpensive machine to own and operate.

- Digs 3 in. wide by 1 to 24 in. deep; or 4 in. wide by 18 in. deep
- Light weight, compact, portable
- Since 1956 satisfied users all over U. S. A.
- Dependable trouble-free trenching at lowest cost.
- Digs 1½ to 17 ft. per minute, depending on soil conditions

FOR FREE BOOK ON POW-R-SPADE AND PRICES CALL COLLECT 788-9527

MAIL DIRECT

STAMPINGS, INC.
Dept. N, Rock Island, Illinois

Exchange—New Philadelphia-Dover, O,	
Total telephones	13,203
Period	Year 1960
Business customers	1,156
Customers contacted	76%
Annualized sales	$ 48,815
Non-recurr. rev.	$ 8,485
Sales expenses	12%

Showed Customers' Needs

These 13 exchanges range in size from one with 461 total telephones to one with slightly more than 13,000 telephones, and it will be noticed that all of them are located in mid-western states. They are quite typical of, and possess characteristics similar to, communities served by most Independent telephone companies. For this reason, I would not hesitate to suggest that any company use our experience in analyzing its market potential.

As an additional aid to other companies in evaluating their sales possibilities, a partial list of the products and services that were sold in the above listed 13 exchanges is given in *Table 1.*

The variety, as well as the quantity of products and services that were sold gives positive evidence of the need of our business customers for improved communications. I can assure you that there is no hesitancy on the part of the business customer to pay the increased cost of improved communications facilities, once he has had the opportunity to be exposed to the benefits that he can derive from the installation of them. These sales results in the 13 exchanges represent a significant improvement in the services we are furnishing to the business customers.

Good for Any Company

Based on our experience, I feel I can assure any company that a carefully-planned presentation of its products and services to business customers by a well-qualified and equipped sales force, will bring similar sales revenues; will effect an improvement in the service to customers, and when combined with an adequate pricing structure will make a very substantial contribution to the company's profit.

If a company's problem is one of inadequate pricing, it can take a major step toward improving its possibilities of correcting the situation by exposing business customers to the many benefits they can receive from good, complete, tailor-made communications. As a direct result of experiencing these benefits personally, customers develop an appreciation of the value of good communications in the conduct of their business and, as a result, they offer less resistance to a price adjustment.

Our experience has been that, when

FOR THE TELEPHONE INDUSTRY

MAGNOLIA SLIP PROOF WAX

M-666

Telephone Company floors fortified with Magnolia Slip Proof Wax assures safer footing for all walks of life. It produces a lusterous finish without polishing but, also, gives protective finish that is long wearing, scuffs to a minimum. Magnolia Slip Proof Wax spreads easily and smoothly.

Approximate coverage fifteen hundred to two thousand square feet per gallon. Drying time thirty minutes.

MAGNOLIA TELODET CLEANER

MP-3

Non-Toxic, Non-Inflammable

REMOVES: GREASE, OIL, WAX, GUM, DIRT, DYE, SOAP, LIGHT CARBON, ETC.

MAGNOLIA WAX REMOVER

CF-5230

"THE CLEANER DOES THE WORK"

Formulated to do the most rugged cleaning jobs, such as removing scum, ground-in dirt and Wax Films, without harming the finest floor surfaces. Magnolia Wax Remover contains special soaps, detergents and sequestering agents selected for cold and hard water efficiency. "Triple-action" of Magnolia Wax Remover penetrates the dirt and film rapidly—holds the "wet dirt" in suspension on the surface—allows it to be thoroughly and completely "rinsed" from the floor.

MAGNOLIA CHEMICAL CO., INC.

CHICAGO • LAFAYETTE, IND. • TAMPA • DALLAS • LOS ANGELES

Order from your Telephone Supply Distributor

a businessman proves to himself that improved communications work for him, he does not object to paying a reasonable price for this proven worth.

Work To Better Results

We consider the developmental portion of the sales phase of our long-range marketing plan to have been completed, and our efforts in the future, with regard to the sales portion of the marketing job, will be devoted to improving our performance, our service and our results. Sales has been referred to as the cutting edge of marketing; we now feel that we have this cutting edge working for us and from here on it will be a matter of continuous sharpening.

Taking full advantage of the experience gained from the introduction of the business market sales effort, our marketing people collaborated with the Commercial Department in the development of a planned program designed to give us similar coverage in our residential customer markets.

Each of our operating companies has appointed a Residential Sales Administrator, who is charged with the responsibility of attaining the objectives that were established. These men were given complete training in the field of sales, sales motivation, sales training and sales management. They also were equipped to introduce this complete program to their respective companies, and to train both the customer contact employes (Plant and Commercial) as well as all other employes, to analyze each customer contact, and to recognize a situation where an additional service would be of benefit or convenience to the customer, and then present the sales proposal in a pleasing, persuasive manner and, if possible, to effect the sale.

Training Still In Progress

We are firmly convinced that we are now giving improved service to our residential customers as a result of these well-trained, fully-qualified employes, acquainting customers with the many products and services we have available and which increase the value of their present service.

The training phase of this sales effort is still in progress, but the preliminary results clearly indicate that it is being well received by our customers and our employes, and that it is filling a basic requirement that was needed in order for our companies to provide customers with complete, modern communications tailored to meet their needs and desires.

Unit Marketing Research

I believe this residential sales program is a good illustration of the contribution to a company's over-all welfare and performance that can be realized as a result of those charged with the marketing responsibility assisting the long-established departments to develop a tool that will be effective in gaining maximum customer satisfaction and a resulting increase in the company's profits.

At the present time, we are in the process of introducing marketing research into our operating companies. Our plans in this area call for this function to be under the direction of the Marketing and Sales Manager; however, it is expected that the services of the marketing research section will be available to all departments and all areas of the company.

We look upon marketing research as a technical capability that will aid us in pinpointing problem areas, assist in giving direction to the development of the best possible solution, and to offer specific recommendations designed to assist the company to meet its various objectives. The primary responsibility of the marketing research will be to aid the individual company in solving its specific problems—with the GT&E Service Corp., serving as the point of coordination for projects applicable to more than a single company.

It would be premature at this time to attempt a discussion of how we propose to develop the last two phases of the long-range marketing plan. We are hopeful, however, that we will have both of them completed by the end of 1963. With the completion of the two remaining phases we believe that we will be in a position to realize our basic objective of the marketing function in our General telephone companies.

We will have the tools to enable us to determine our customers' wants and needs; to intelligently interpret these into the development and manufacture of the most acceptable products; to promote, through coordinated effort, the maximum sale at a minimum of expense, and to have all of our employes cognizant of the importance of their job to the attainment of this objective.

We might consider that these four phases of our marketing plan provide the spokes making up our wheel of fortune: (1) The wheel received its initial impetus from the introduction of the sales function in the business market; (2) it gained increased momentum from the introduction of the

ARPS
MODEL L-12
Trench Devil
CHALLENGES ALL COMPARISON!
• DIGS WIDER - DEEPER - FASTER THAN ANY KNOWN COMPETITION
• COSTS LESS TO BUY - OPERATE - MAINTAIN
• SPEEDS UP TO 1200 FT. PER HOUR
GET THE FACTS
and complete specifications on the Trench Devil from this specially prepared brochure.
• SELF PROPELLED
• POWER BOOM CONTROL
• REVERSIBLE DIRT CONVEYOR
OTHER MODELS
MA-2 - Self Propelled. Slightly less capacity than L-12
• JR Trencher Economy Model, hand winch propelled.
ARPS
CORPORATION
DEPT. T
NEW HOLSTEIN, WIS.
• TRENCHERS • HALF TRACKS • DOZERS • UTILITY BLADES

a FIRST look . . .

New Airtronics MULTI-PURPOSE, PORTABLE test hybrid set

CHECK THESE SPECIFICATIONS

120 P Repeat coil hybrid, specially adjusted for high trans-hybrid balance

128 type low pass filter

Precision 1% capacity decades on NBO

Internal switching provided for two most commonly used networks

Plug-in network arrangement, compromise net built in

Line and Net simplex leads brought out to pin jacks on front panel for special testing procedures

Convenient panel lay-out, jacks and binding posts to facilitate connection to line or external circuits

600 ohm impedance on 4 wire legs

900 ohm impedance on line, (a built-in switch permits change to 1500 ohm impedance line)

ALSO AVAILABLE

External decade capacitor and variable resistor (3 terminal) for use in locating cable opens, for compromise net, etc.

Plug-in dial to facilitate testing procedures

- **makes acceptance tests easier, faster**
- **locates cable opens accurately**
- **accommodates standard networks**

Now, a completely portable precision test hybrid for transmission engineers and testers — ruggedly built, and packaged for maximum convenience and flexibility. Use Airtronics new Test Hybrid Set for cable and trunk acceptance tests, circuit evaluation, capacity balance tests, acceptance and evaluating tests using Singing Point or Return Loss techniques, plus other specialized applications. Use it, too, to locate — with *Airtronics unique new "Cable Locator"* — some of those "lost" cable pairs currently unavailable for use because of opens! This exciting innovation in telephone test equipment determines, with new accuracy, distance to an open end — by a capacity comparison method, with capacity measured to ±1%.

Modernize — simplify — your testing procedures with the new Airtronics Multi-purpose Portable Test Hybrid Set, Model 20B. It is designed to use standard type 115H or 115AL Precision Networks, available in all toll offices.

another product FIRST from

AIRTRONICS INTERNATIONAL CORPORATION

P.O. Box 8576, Fort Lauderdale, Florida (6900 West Road 84)

CEECO TYPE C225
GALVANIZED STEEL CASE ASSEMBLIES

CEECO TYPE C225 ASSEMBLY

FOR UNDERGROUND (VAULT MOUNTING), CONTAINING 4 TO 460 UNITS.

- LEAD STUB ASSEMBLIES ARE PRESSURIZED.
- PLASTIC STUB ASSEMBLIES ARE SEALED IN THERMOPLASTIC COMPOUND.

These assemblies can be equipped with loading coils, capacitors, inductors and MF units.

Write us for assistance on your loading problems.

CEECO assemblies are sold by your telephone equipment supplier.

COMMUNICATION EQUIPMENT & ENGINEERING CO.

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When a directory advertising salesman calls on YOUR customer
Be confident of the integrity of the man.

LET SUTTLE MAKE YOUR DIRECTORY

Suttle salesmen are carefully chosen, thoroughly trained, and constantly aware of the trust you place in them.

THEY BUILD GOOD WILL AND PRODUCE MORE REVENUE

For Further Information Call or Write

SUTTLE DIRECTORY COMPANY

401 N. 15th St. (Cooperative Plan) Telephone 782
LAWRENCEVILLE, ILLINOIS

Modern Styling Highest Quality

planned residential sales program; (3) further stimulus will be contributed by the marketing research recommendations which should result in new and improved products; (4) these products will be more favorably received by our customers and through this favorable reception we will generate employe enthusiasm and participation, thus giving us better information concerning our customers' needs and wants, this, again, resulting in improved products and increased sales and greater employe understanding and acceptance.

This process continues ad infinitum, expanding its benefits and developing greater potential at every turn.

(To Be Continued)

Fifty-four Attend Telephone Engineering Conference

Fifty-four engineering executives from telephone companies in 18 states, Colombia and Canada concentrated on problems of economics and finance at the fifth annual Telephone Engineering Conference held from July 14 to July 25 at Michigan State University, East Lansing.

The conference was sponsored by the United States Independent Telephone Association and the MSU College of Engineering.

An expert staff drawn from industry and the MSU faculty directed classes in economic concepts, cost considerations in engineering, economic forecasting, the science of communication, engineering design and other subjects during the three-week seminar at the Kellogg Center for Continuing Education.

In addition, three outstanding guest speakers were secured to give the par-

Cover Photo

Pictured on our front cover, are the following gentlemen:

FIRST ROW—FRONT—Messrs. Dallman, Landers, Pedrick, Carr, Story, Haver, Helms, Tabanelli, Curl, King, Ericson, Collins, Neal, Koon, Bishop.

SECOND ROW—Messrs. McDonald, Juergens, Seward, Sheetz, Hernandez, O'Rourke, Hinshaw, Niziolek, Smith, Wenstrom, Traut, Ross, Ritland, Williams, Ritter, Adams.

THIRD ROW — Messrs. Miller, Mulholland, Pew, Davis, Bowen, Hamilton, Lowe, Musselman, Hunt, Kirby, Nelms, VanderBent, Hankinson, Sissons.

FOURTH ROW—BACK — Messrs. Shaw, Wivel, Prigmore, Wirtz, Kumata, Coffman, Gruehr, Hendry, Flowers, Elrod, Brown, Walker, Hu.

ticipants a glimpse into current research and future developments.

Frederick L. Kahn, director of telephone switching system development for Automatic Electric Laboratories, Inc., spoke to the group on toll ticketing equipment, automatic number identification and all-number-calling.

Robert R. Dobbin, chief engineer for General Dynamics/Electronics, reported on the status of the development of electronic switching equipment and its use on a commercial basis.

J. H. Felker, assistant chief engineer for American Telephone & Telegraph Co., discussed such future wonders as commercial communications satellites and television telephone.

NEW DEVELOPMENTS

Continued from page 23

cab and requires only 18 inches to 26 inches mounting space, depending upon the mounting and jack choice. The derrick, including the base, superstructure and hydraulic outriggers, is built as an integral unit to minimize body and derrick stresses.

Seated in the crow's nest, the operator has an unobstructed view of his work area and can dig, "live boom" up to 9,000 pounds, rotate 360 degrees in either direction and extend and retract the 7-foot boom. Foot pedal controls rotate the derrick and operate the digger; the derrick vertical movement and boom extension and retraction operations are controlled by hand levers.

The derrick has a head sheave height of 32 feet maximum, 30 inches minimum, operating through a range of 108 degrees. It has an offset sheave design which holds the pole away for the derrick leg, thus providing additional clearance for pole handling.

As optional equipment, Holan offers the same semi-automatic locking device for the earth borer as that used on the Model 7500 corner derrick. The device locks the earth borer to the extendible boom for digging, and automatically locks the borer to the end of the main boom when retracted. A Fiberglas boom extension with or without bucket is available as optional equipment.

Diagonal slide-out type hydraulic outriggers provide a 134-inch span for stabilizing the unit. Fold-over type outriggers can be used, providing a 160 inch stabilizing span.

The standard unit has a hydraulically-driven winch mounted in the base of the derrick. As an option, the winch can be mounted in the rotating superstructure.

•

Boom Elbow. (Fig. 40). Bucket access from the floor of the body is an exclusive feature of the LD-40 boom elbow now being manufactured by Holan Corp.

The new elbow reaches to a working height of 40 feet and can be operated by one man. It is ideal for mid-span trouble work, installing customer service from pole or mid-span, inspection of insulators, and telephone drop installations from mid-span, according to the manufacturer.

In addition to the bucket which rests on the floor of the body, the elbow incorporates several features which insure stability and maximum range without the use of outriggers. Using the same reverse offset superstructure and torsion bars designed for the Holan Squirt Boom, the LD-40 provides an aerial nest in all positions. It can be mounted on an 84-inch CA, 14,000# GVW chassis.

The metered remote controls are located on the inboard edge of the bucket and the slave and main controls on the superstructure. The bucket is suspended in an offset yoke (patents applied for)

ONLY KWAL-KRETE

LETS CONCRETE "BREATHE" ...AND WATERPROOFS, TOO!

Leading telephone and utility companies use and specify **KWAL-KRETE** Paint. They know that **KWAL-KRETE**, alone in its class, both seals the concrete surface from OUTSIDE moisture and lets moisture caused by condensation INSIDE the structure escape through evaporation. Next time you paint specify **KWAL-KRETE**, developed specifically to seal, protect and beautify concrete.

KWAL PAINT

Progress in Paint

FREE! KWAL-KRETE KIT

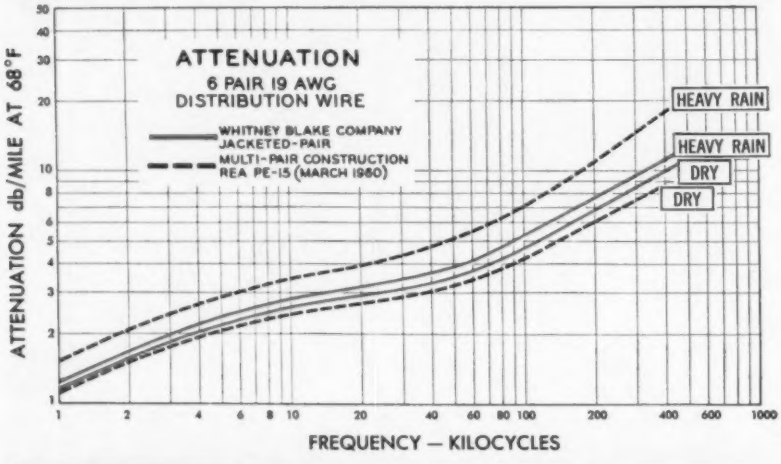
For full information and specifications on KWAL-KRETE, together with a color card, write your name and title on your letterhead and mail to: KWAL PAINTS, INC., 800 Water St., Denver, Colorado.

NOW CARRIER APPLICATION IS POSSIBLE

with

WHITNEY BLAKE JACKETED-PAIR DISTRIBUTION WIRE

JACKETED-PAIR now makes possible the use of carrier equipment as a result of the relatively small change and low level of attenuation. For example, at 400 kilocycles, the attenuation for PE-15 type increases106% from dry to heavy rain while JACKETED-PAIR increases only 12% at this frequency.



Write for full details shown in FREE Bulletin T-6

WB WHITNEY BLAKE CO.

NEW HAVEN 14, CONN.

Telephone CHestnut 8-5515 TWX: NH 84

Fig. 40. Boom elbow.

to facilitate bucket entry, increase versatility and working range, and provide a lower stored height (10 feet).

The lower arm of the elbow travels 102 degrees, the upper arm 135 degrees and the unit carries a payload of 300 pounds in all positions. Both arms are actuated by identical hydraulic cylinders with integral pilot check valves. The elbow rotates 360 degrees continuously in either direction and is self-locking.

A triple-cylinder type hydraulic parallelogram system keeps the bucket level at all times. The molded Fiberglas reinforced plastic bucket, yoke and upper arm can withstand a bucket-to-ground test in excess of 100,000 volts (AC).

The LD-40 is available with a straight yoke which increases top working height by 18 inches. Because the over-all length of the unit is increased by the straight yoke, a longer body chassis is required when the optional yoke is used.

(To Be Continued)

Inter-Mountain Company Workers Reject CWA

A recent National Labor Relations Board election among employes of the Inter-Mountain Telephone Co., Bristol, Tenn., was held to determine whether the Communications Workers of America (AFL-CIO) should represent Inter-Mountain's employes.

By a vote of 407 to 253, the company's personnel rejected affiliation with the CWA.

Named to N. Y. Company Post

Leo T. Neugebauer Jr. has been appointed assistant treasurer of the Walden (N. Y.) Telephone Co., it was reported on July 22. Mr. Neugebauer is a graduate of St. Vincent College, Latrobe, Pa.

USITA

promotes service aims of Independent telephony

In the USITA (United States Independent Telephone Association) the communications industry has a force of sound, practical objectives. The dynamism of the program which motivates the USITA stems from the Independents themselves. For it is their awareness of their responsibilities that accounts for the fact that in the USITA scheme of things service to subscribers is of primary and paramount importance.

(This advertisement is not to be construed as an endorsement of any product by the United States Independent Telephone Association.)

Beginning its second half-century of service to subscribers throughout eastern and central Texas, the Gulf States Telephone Company recently marked its 50th Anniversary with the opening of this modern exchange building in Athens, Texas. The multiple booth installation pictured consists of three Sherron Model 18-S Type 1A acoustic steel telephone booths, modified to include entire stainless steel front sections with display section at one end. According to Mr. Rolla L. Johnson, vice-president and general manager, these booths are both summer-and-winter air-conditioned. This convenience is typical of the resourcefulness of Gulf States in providing its patrons with the finest in communications facilities.

as demonstrated by GULF STATES TELEPHONE COMPANY

SEE OUR CATALOG IN SWEET'S

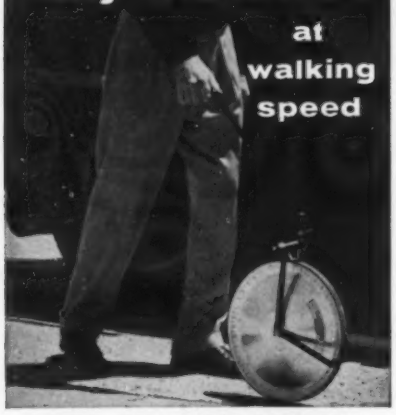
INDEPENDENT

Sherron ACOUSTIC T SEE-THRU

There's a Sherron booth for every location and budget in either zinc coated or stainless steel

SHERRON METALLIC CORP., 1201 FLUSHING AVE., BROOKLYN 37, N. Y.

Measure any distance at walking speed



records 100,000 ft. *automatically!*

It's So Easy to measure with a Rolatape ...and you save time on every estimating job...no tapes to wind, no helper is required. You get precision-accurate measurements every time.

Records Feet automatically and the accumulated total is always in full view.

Shows Inches, and Fractions of an inch. Wheel is calibrated in inches and fractions for quick easy reading.

Shows Tenths of a foot. Wheel is calibrated in tenths on reverse side for engineers.

There is a variety of Rolatape Models to suit your needs. See them at your local dealers.

Write for information and name of local dealer today!

Rolatape, Inc., 1741 14th St., Santa Monica 2, California

Rolatape

Measuring Wheels

IN THE NATION'S CAPITAL

Concluded from page 20

of my favorite boasts is that never, in the entire 25½ years, have I missed one deadline or scheduled assignment. Aside from the "luck of the Irish," I could not have made that record without plenty of intelligent help from the splendid editorial staff in Chicago.

But the passage of time seems to bring with it an inevitable accompaniment of growing demands on time and energy. With the steady expansion and increasing editorial requirements of *Public Utilities Fortnightly*, of which I shall continue as editor as well as other professional and teaching commitments, I felt that I could no longer carry the responsibility of Washington editorship for TELEPHONY and do it full justice. The editor and publishers of TELEPHONY have agreed and so we came to the end of a long and, I hope, useful editorial assignment. For reasons already explained, however, I shall not sign my customary "30" to this final dispatch with such dramatic English phrases as "farewell" or "good-by," or the Latin "hail and farewell" *(ave atque vale!)*. I much prefer the French "till we meet again" *(au revoir)* or even the more familiar expression of the convention Joes, "Be seeing you around!"

BROADER VIEWPOINT NECESSARY, CALIFORNIANS TOLD

Concluded from page 31

Another convention speaker was Seabron Calhoun, public relations director for Hawaiian Telephone. He discussed his company's public relations and advertising programs.

A briefing session on Hawaii's economy was presented by Hawaiian Telephone officials, including Mr. Atherton, John J. Jaquette, vice president and controller; James Wilkinson Jr., assistant to vice president Ralph O. Beck, and Robert Tom, tax analyst.

Tours were conducted to Hawaiian Telephone's overseas, plant, traffic and commercial facilities. The company's annual report film, "Calling 1960," was shown.

Convention delegates adopted a resolution requesting the Federal Communications Commission to take no action on a reduction of interstate telephone toll rates without giving consideration to the effect of such reduction on the earnings of Independent telephone companies. The FCC is holding preliminary discussions in Washington with the Bell system on a possible rate reduction.

Directors serving for the 1961-62 term are: John H. Evans of Patterson, Harlan W. Holmwood of Santa Monica, J. P. Maguire of Bakersfield, Peter A. Nenzel of San Francisco, W. Gilman Snyder of Weaverville, Allan A. Stacey of Sunland and Donald H. Strahl of Gilroy.

Officers are: President, Mr. Snyder; first vice president, Mr. Stacey; second vice president, Mr. Nenzel, and secretary-treasurer, Neal C. Hasbrook of San Francisco.

These telephone executives attended the 18th session of Columbia University's Executive Program in Business Administration held, at Arden House, near New York City, June 11-July 22. Right to left: Howard M. Smith, general commercial manager, The Chesapeake & Potomac Telephone Co. of Maryland; Evert F. Nelson, vice president and regional general manager, The Reuben H. Donnelley Corp.; Richard T. Dugan, assistant vice president, Long Lines Department, American Telephone & Telegraph Co.; and George H. Ruschhaupt, assistant vice president, The Bell Telephone Co. of Pennsylvania. Now in its 10th year, the Program, part of the Graduate School of Business, is a six-week course of study for senior executives in various industries, and covers problems in internal administration, economic forces affecting business leadership, and effective executive action. Hoke S. Simpson is director.

NEW! Self-Bonding NAMEPLATES
Fast, Permanent Identification

- **POLY-PLATES** — Made of Miracle Mylar* with permanent, Sub-Surface Metalized printing. Unlimited design possibilities. Self-bonding.
- **QUIK-PLATES** — Colorful Anodized Aluminum Nameplates with permanently etched printing. Four Application Methods.
- **BRADY-CALS** — Pressure-Sensitive, superthin Vinyl or Mylar*. Top-Surface Printed. Low Cost.
- **LITHO-PLATES** — Surface-Printed Bright Aluminum Nameplates. Self-Bonding.

*DuPont's Reg. T.M.

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Manufacturers of Quality Pressure-Sensitive Industrial Tape Products, Self-Bonding Nameplates, Automatic Machines for Dispensing Labels, Nameplates, Masks and Tape • Est. 1914

111

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The binder is made of durable, leather grained imitation leather over stiff boards. It would be an attractive addition to any home or library.

You will get full value out of TELEPHONY by saving your copies. The binder costs only $4.50 and it will last for many years.

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Ask the man who uses one

HE'LL TELL YOU WHY RYCOM FREQUENCY SELECTIVE VOLTMETERS ARE BETTER!!!

2174A

SPECIFICATIONS					
MODEL	FREQUENCY RANGE	SELECTIVITY	LEVEL FULL SCALE	ACCURACY	TYPICAL FILTER SELECTIVITY
2171	60 Cycles to 4 Kilocycles	30 Cycle or 50 Cycle Filter	−68 to +32dbm	± .5db −80 to +32dbm 300 Cycles to 4 Kilocycles	**30 CYCLE FILTER** 6db— 35 Cycles 60db—250 Cycles
2174A	300 Cycles to 400 Kilocycles	50 Cycle or 100 Cycle Filter*	−68 to +32dbm	± .5db −80 to +32dbm 300 to 400 Kilocycles	**50 CYCLE FILTER**** 6db— 60 Cycles 60db—450 Cycles
SPURIOUS RESPONSE: Below 60db LOW INTERMODULATION: Below 60db POWER REQUIREMENTS: 115 V. A.C.—50/60 Cycles. WEIGHT: 28 lbs.					**100 CYCLE FILTER** (STANDARD) 6db—140 Cycles 60db—900 Cycles

* Including a wider filter and demodulator for monitoring SSB, AM and FM signals.

This instrument utilizes the heterodyne principle with balanced modulation and highly selective crystal filters which achieve the high resolution needed for accurate amplitude measurements of Carrier and Microwave Sub Carrier channels. Direct reading in DBM for 135 and 600 ohm circuits or bridging. Offers fast accurate amplitude measurements throughout the frequency spectrum of 300 cycles to 400 kc. PRICE: $795 F.O.B. RAYTOWN, MISSOURI.

**50 cycle filter model priced slightly higher.

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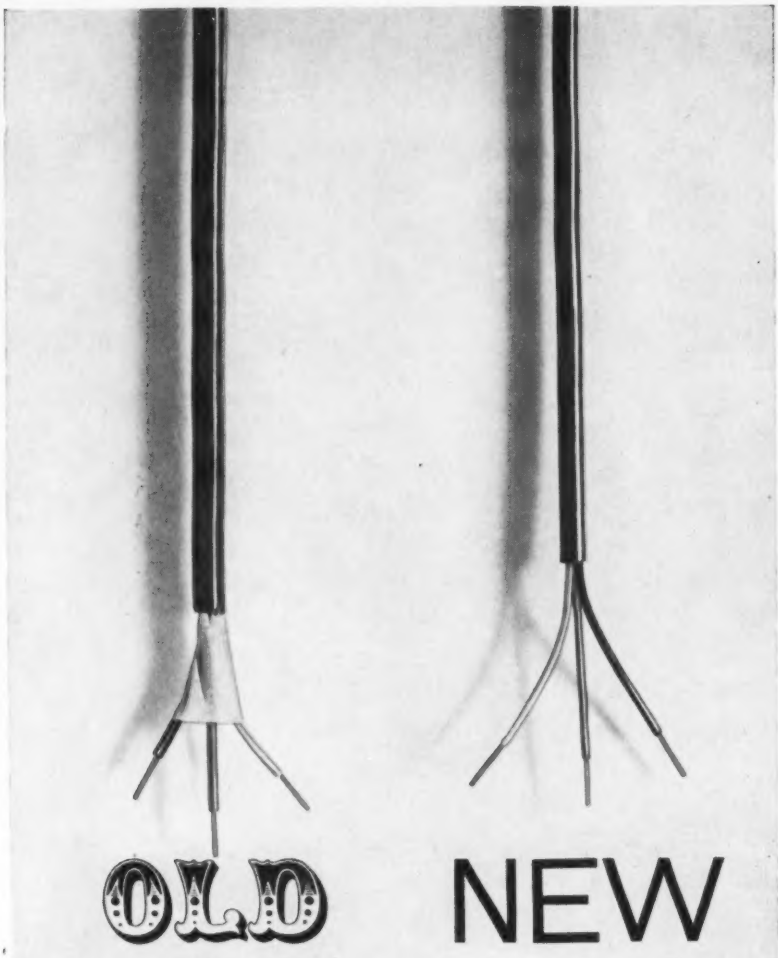

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Here's what you get with new improved Inside/Outside Station Wire:

■ smaller, neater looking wire
■ faster installations: wire trains easily due to reduced size, installs with staple gun
■ improved electrical and physical properties
■ twisted conductors to prevent cross-talk on multiple long runs
■ high density polyethylene color-coded insulation with weather resisting vinyl jacket for easy stripping
■ lower cost

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U.S. Invites All Nations to Participate in Satellite System

All nations have been invited by President Kennedy to participate in a communications satellite system.

The objective, he said on July 24, is to promote the cause of world peace and closer brotherhood among peoples of the world.

In a policy statement, the President said private ownership and operation of the U.S. portion of the system is favored, provided such ownership and operation meets various stated requirements.

Mr. Kennedy said science and technology have progressed to such a degree that communication through the use of space satellites has become possible.

"Through this country's leadership, the competence should be developed for global benefit at the earliest practicable time," Mr. Kennedy stated.

Mr. Kennedy said private ownership and operation of the U.S. part of the system is favored provided these requirements are met:

(1) New and expanded international communications services be made available at the earliest practicable date.
(2) The system is global in coverage so as to provide efficient communication service throughout the whole world as soon as technically feasible, including service where portions of the coverage are not profitable.
(3) Opportunities for foreign participation through ownership, or otherwise, in the system.
(4) Nondiscriminatory use of an equitable access to the system by present and future authorized communications carriers.
(5) Effective competition, such as competitive bidding, in the acquisition of equipment used in the system.
(6) Structure of ownership or control which will assure maximum possible competition.
(7) Full compliance with antitrust legislation and with regulatory controls of the government.
(8) Development of an economical system, the benefits of which will be reflected in overseas communication rates.

Mr. Kennedy, outlining the policy of government responsibility, said that in addition to its regulatory functions, the government will:

(1) Conduct and encourage research and development to advance the state of the art of satellite communications.
(2) Conduct and maintain supervision of international agreements and negotiations.
(3) Control all launching of U.S. spacecraft.
(4) Make use of the commercial system for general governmental purposes and establish separate communications satellite systems when required to meet unique government needs, which can-

not, in the national interest, be met by the commercial system.

(5) Assure the effective use of the radio frequency spectrum.

(6) Assure the ability to discontinue the electronic functioning of satellites when required in the interest of communication efficiency and effectiveness.

(7) Provide technical assistance to newly developing countries, to help maintain an effective global system as soon as practicable.

(8) Examine with other countries the most constructive role for the United Nations in international space communications.

The National Aeronautics & Space Council will provide policy coordination and also have responsibility for recommending to the President any actions needed to bring about full and prompt compliance with the policy.

NASA, AT&T Agree to Launch Two Satellites in 1962

The National Aeronautics & Space Administration and the American Telephone & Telegraph Co. on July 28 signed an agreement under which NASA will launch two and perhaps four communications satellites in 1962 for AT&T.

The company will build the satellites at its own expense and will reimburse NASA for launching and tracking costs. Cost per launching is estimated at 6 million dollars. The two-launching schedule calls for one in April, the other in October.

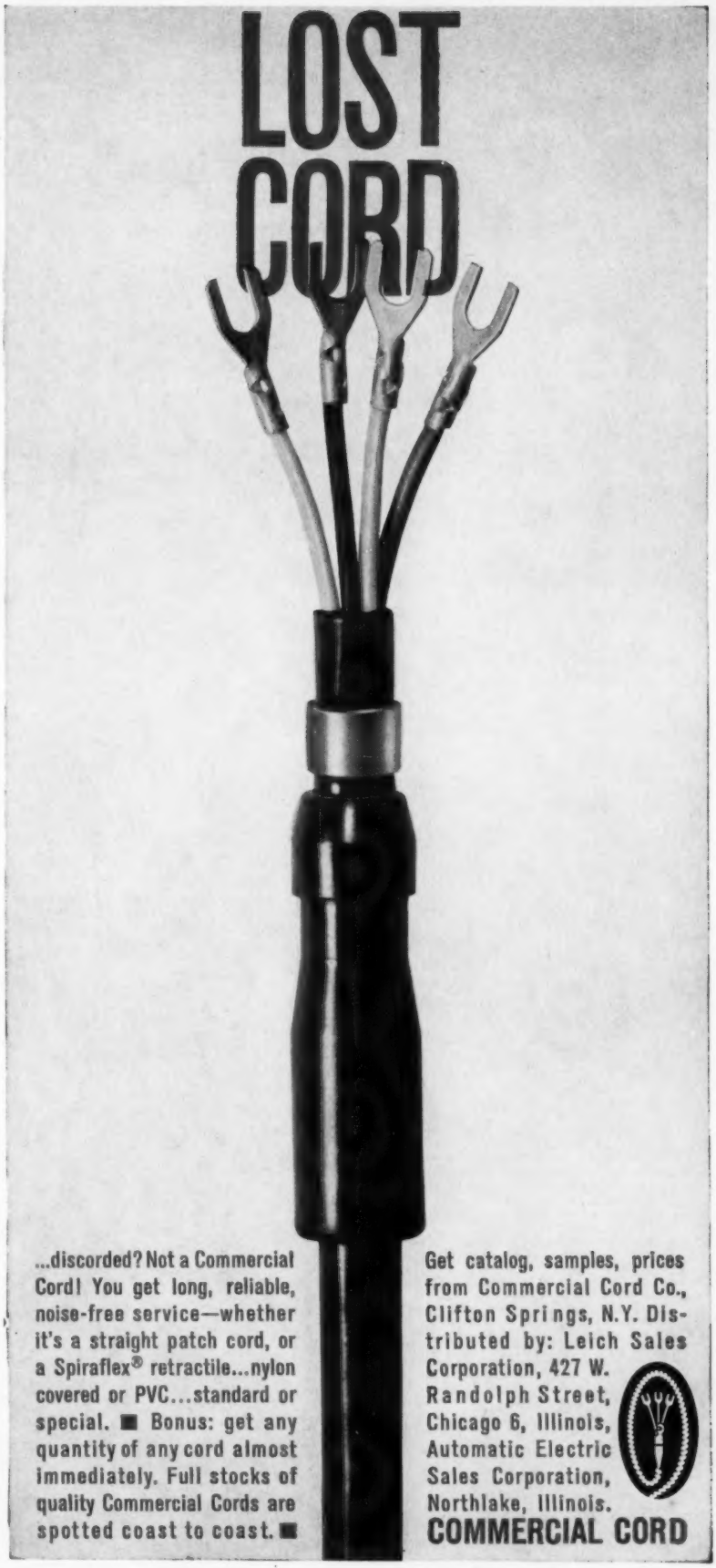
The federal government receives license to inventions made under the agreement and the right to sublicense under certain conditions.

NASA also plans to launch in 1962 a communications satellite of its own which is being built under contract by Radio Corp. of America. Both programs contemplate developing a world-wide satellite communications system which would be privately owned and operated.

Civil Defense Communications Under Secretary of Defense

Effective Aug. 1, President Kennedy has transferred almost all civil defense responsibility to the Secretary of Defense. The Office of Civil and Defense Mobilization will become the Office of Emergency Planning.

The Secretary of Defense is now directly responsible for "all functions pertaining to communications, including a warning network, reporting on monitoring, instructions to shelters and communications between authorities . . . develop (ing) plans and operate (ing) systems to undertake a nationwide postattack assessment of the nature and extent of the damage resulting from enemy attack and the surviving resources, including systems to monitor and report specific hazards resulting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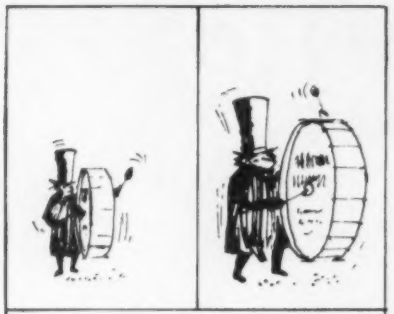

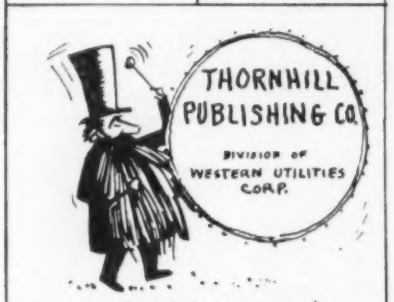

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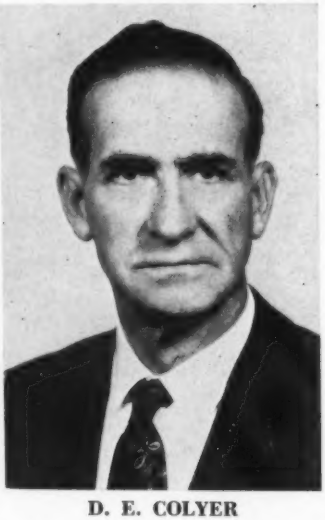
from the detonation or use of special weapons."

The new Office of Emergency Planning will continue the telecommunications coordinating functions of the OCDM and of the Inter-department Radio Advisory Committee (IRAC).

Trans-Alaska Announces Two Additions to Staff

The addition of two key employes, Harold Matthews Jr. and Douglas E. Colyer, to the staff of Trans-Alaska Telephone Co., Anchorage, was announced on July 19 by the president, Thomas C. Harris.

HAROLD MATTHEWS JR.



D. E. COLYER

Mr. Matthews joined Trans-Alaska as commercial manager. He was formerly a communications engineer with the USAF Headquarters, Western GEEIA Region, Sacramento, Cal. His main endeavors in this capacity were in the field of commercial telephony for seven western states.

Before that time, Mr. Matthews was employed for 13 years with the Pacific Telephone & Telegraph Co. in California and in the state of Washington.

Mr. Colyer has lived in Alaska for the past 12 years. Previous to his joining Trans-Alaska as the general superintendent of outside plant, he was associated with several other utility companies and related projects.

In Alaska, Mr. Colyer has worked for the Bureau of Public Roads, Copper Valley Electric, Seldovia Light & Power, and for Morrison Knudsen.

In announcing the appointments of these men, Mr. Harris said, "The staff is indeed fortunate to have the aid and assistance of these men behind them."

Utility Financing Up 77% In First Half of 1961

Financing by the nation's privately owned public utilities increased by 77 per cent in the first six months of 1961, totaling $2,910,000,000, against $1,646,000,000 in the like period of 1960, according to the financial consulting service of Ebasco Services, Inc., it was reported on July 19.

Telephone utility financing amounted to $1,503,000,000 a 333 per cent increase over 1960's first half figure of $347,000,000.

Gas utility financing increased by 185 million dollars to 590 million dollars.

Meanwhile, electric utility financing decreased by 75 million dollars to 813 million dollars.

Common stock financing rose to an all-time January-June high of $1,312,000,000, an increase of $1,020,000,000.

Preferred stock offerings were up 41 million dollars to 175 million dollars; and debt financing increased by 204 million dollars to $1,423,000,000.

The Ebasco study reveals that $2,431,000,000, or 84 per cent of the total, represented new financing. Refundings amounted to 478 million dollars.

Pass REA Funds Bill

Both Houses of Congress have passed a Rural Electrification Administration appropriations bill which sets aside $162,500,000 for telephone loans, 30 million dollars of which is to be a contingency fund.

Biggest Isn't Always Best

"Subtlety will sometimes give safety, no less than strength; and minuteness has sometimes escaped where magnitude would have been crushed. The little animal that kills the boa is formidable chiefly from its insignificance which is incompressible by the folds of its antagonist."—COLTON.

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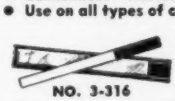
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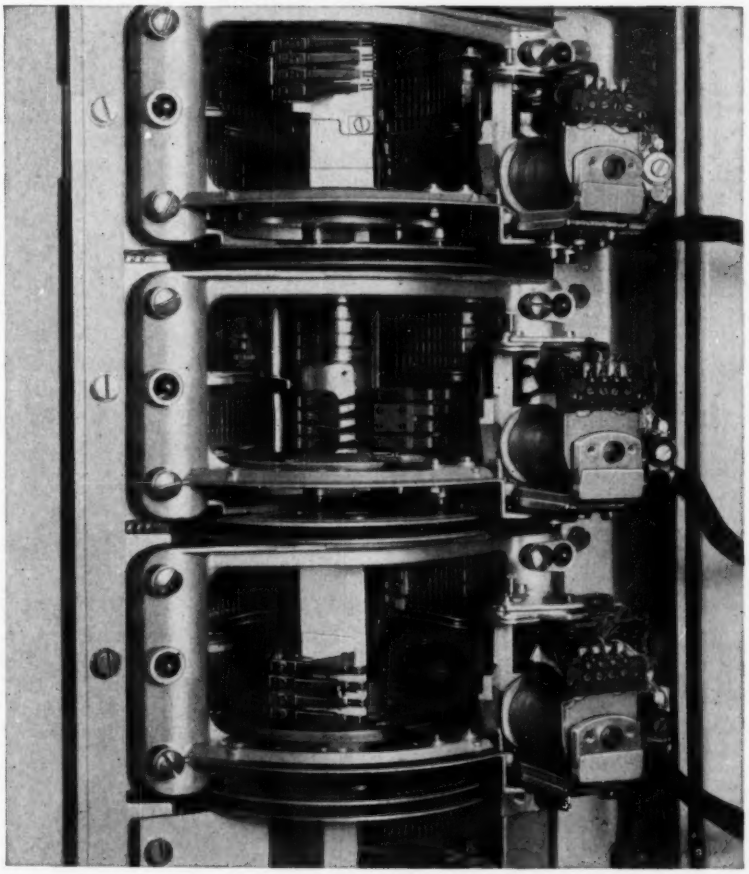

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